ASU
جامعة العلوم التطبيقية
APPLIED SCIENCE UNIVERSITY

College of Arts and Science

Programme Handbook

2016-2017

PROGRAMME HANDBOOK

2016/2017

COLLEGE OF ARTS AND SCIENCE

University Vision, Mission and Aims

Vision

The vision of Applied Science University (ASU) is to be one of the leading private universities supporting practical learning and scientific research in Bahrain and the Gulf region.

Mission

ASU is committed to offering an education that is accessible to academically competent students of Bahrain, the Gulf region and beyond, and to deliver academic programmes of quality that graduate students equipped with knowledge and skills relevant locally and regionally. ASU is further dedicated to the promotion of a culture of learning and scientific research for its students, staff and faculty, regionally and globally to engage meaningfully with the community at large.

Aims

1. To assume social responsibility and to serve the local and regional community.
2. To further enhance scientific research standards in the fields of knowledge.
3. To offer new specialisations to meet the market demands.
4. To keep abreast of scientific developments and to provide all the means of academic success.

College Vision, Mission and Aims

Vision

The College of Arts and Science seeks to achieve a high status amongst national, regional, and international educational institutions via the spread of knowledge and skills to enrich the lives of individuals and contribute towards a comprehensive sustainable development for the Kingdom of Bahrain and the Gulf region.

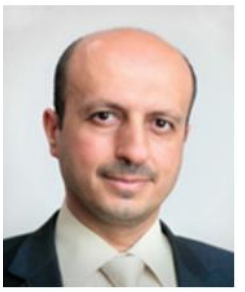
Mission

The mission of the college is to deliver a high level of education by offering a variety of information technology and applied arts educational programmes in order to meet the needs of local and regional communities contributing to economic and social development and developing responsible students. The college also seeks to create a motivating environment for research and creative thinking to develop human capital and encourage collaboration with higher education institutions within the Kingdom of Bahrain and abroad.

Aims

1. To prepare students to work towards future job requirements.
2. To provide graduates with skills for postgraduate studies in computing, graphic design and interior design.
3. To develop analytical skills by offering high quality education that links both theory and practice and meets international standards of higher education.

Message from the Dean



Dear Students,

The College of Arts and Science was established at the Applied Science University in the first semester of the academic year 2005/2006. The College has three departments:

1. Department of Computer Science with Computer Science programme.
2. Department of Design and Arts with Interior Design and Graphic Design programmes.
3. Department of General Studies, which serves all university departments by delivering general interdisciplinary courses.

According to the University's mission, the college seeks to provide students with the necessary knowledge and practical skills to meet their educational goals and with valuable graduate attributes for successful employment. Our dedicated college staff continuously evaluate, update, and enhance our courses and introduce new courses towards this goal.

The College also strives to keep abreast of market requirements and developments in the Kingdom of Bahrain and the countries of the Gulf Cooperation Council (GCC) in order to be outstanding in the fields of Computer Science, Interior Design, and Graphic Design.

To enable today's university graduates in IT and design is their inexperience to link theory to practical situations, the College focuses on connecting information and concepts taught to real life contexts, through projects and practical applications. In this way, our students develop professional hands-on skills to meet the needs of local, regional, and international labour markets.

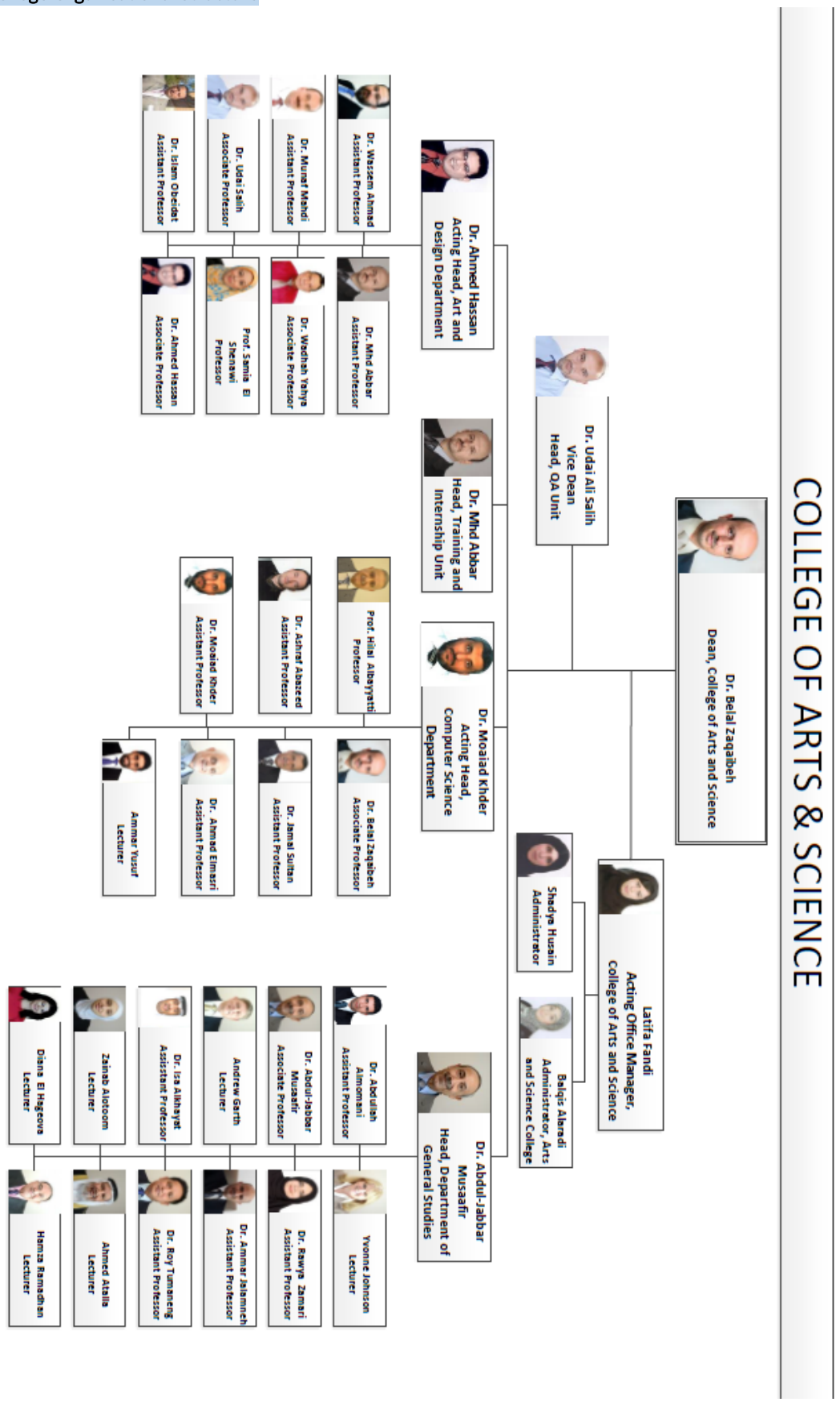
The College is committed to selecting experienced college members to engage with and advise students regarding their courses and responsibilities.

The College offers first class facilities, including state of the art design classrooms and a suite of sophisticated computer labs connected to the university network to support e-learning. Ongoing research is conducted to ensure computer science, interior design, and graphic design courses meet the latest international standards.

I warmly welcome you to come and join our college.

Dr. Belal Zaqaibeh
Dean of the College of Arts and Science

College Organisational Structure



College Staff – Contact Details

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DEPARTMENT
OF
GENERAL STUDIES

Head of Department of General Studies

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Department Details

Teaching Institution	Applied Science University
College	Arts and Science
Department	General Studies
Academic Year	2016/2017
Language of Study	Arabic; English
Mode of Study	Full-time

University Compulsory Requirements (21 Credit Hours)

Course Code	Course Title	Credit Hours	Prerequisite
ARB101	Arabic Language	3	None
ENG101	English 1 (for programmes taught in Arabic)	3	None
ENG102	English 2 (for programmes taught in Arabic)	3	ENG101
ENG111	Upper Intermediate English (for programmes taught in English)	3	None
ENG112	Advanced English (for programmes taught in English)	3	ENG111
CS104	Computer Skills	3	None
HBH105	History and Civilization of Bahrain	3	None
HR106	Human Rights	3	None
LFS102	Thinking and Communication Skills Development	3	None

Course Descriptions

ARB101	Arabic Language	Prerequisite: None

The course deals with issues related to Arabic grammar and literature. It studies some basic linguistic issues in the vocabulary, morphology, syntax and semantics of Arabic. It also covers stylistic and literary features through analysing and discussing certain selected texts from the Holy Quran and other literary masterpieces.

ENG101	English 1	Prerequisite: None

The course is a required university course for all bachelor students whose medium of instruction is Arabic. It is designed to meet the needs of general and everyday English skills and is integrative to basic language skills. The course concentrates on the grammatical structures of simple English sentences and the vocabulary students need in their studies to follow lectures and to read references.

ENG102	English 2	Prerequisite: ENG101

The course is a required university course for all bachelor students whose medium of instruction is Arabic. It is a continuation of ENG101 and is integrative to the four language skills in the frame of general English. The course takes students from pre-intermediate to upper-intermediate level and provides practice for English language structures and communication skills. Students develop and present their own ideas through the practice of in reading, writing, listening and speaking skills needed to communicate in both professional and personal situations.

ENG111	Upper-Intermediate English	Prerequisite: None

The course is the first of two credit English courses which ASU students enrolled in MIS, CS, and ACC bachelor programmes are required to take during their first year of study. It aims at exposing students to a wide variety of reading passages, providing them with adequate practice in scanning to find information from texts, guessing meaning from context, and critical thinking. Grammatical structures are introduced in context with questions that encourage students to work out the rules for themselves. The vocabulary syllabus concentrates on learning new words in lexical sets. ENG111 is a skill-building course which enables students to speak with ease and confidence, communicate with different types of people, discuss academic, social and professional matters, listen to news in English, read newspapers, magazines and references, write personal and business letters, write reports and articles, etc.

ENG112	Advanced English	Prerequisite: ENG111

The course is the second of two English language courses which students are required to take during their study at the University. It is a skill-building course which enables students to speak with ease and confidence, communicate with different types of people, discuss academic, social and professional matters, listen to news in English, read newspapers, magazines and references, write personal and business letters, write reports and articles, etc. It fulfils a high level of proficiency in English as a prerequisite for academic, social and professional success.

CS104	Computer Skills	Prerequisite: None

The course covers the following topics: basic concepts of information technology, using computers to manage files: word processing, spreadsheets, presentations and databases.

HBH105	Bahrain Civilisation and History	Prerequisite: None

The course deals with the history of Bahrain from 1500 until 1800. It studies the stages of the Portuguese invasion of this part of the world and the international power struggle that erupted after the invasion. It also deals with the rule of Al-Utuub Tribe of Bahrain and the reign of Al Khalifa thereafter.

HR106	Human Rights	Prerequisite: None

The course discusses the basic principles of human rights. It acquaints the students with the nature of human rights, their realms and sources, focusing on the international legal provisions concerning human rights included in the following documents: United Nations Charter, International Declaration of Human Rights, International Accord on Civil and Political Rights, International Accord on Social and Economic Rights, international agreement against torture and inhumane, disrespectful punishment, and protection mechanisms and constitutional organization of public rights and freedoms in the Kingdom of Bahrain.

LFS102	Thinking Communication Skills Development	Prerequisite: None

The course introduces students to the concept of thinking, its characteristics, forms and importance in the educational process. It also deals with the application of modern strategies and theories interpreted for different kinds of thinking. It also deals in detail with aspects of communication skills aiming to improve the students' skills so they are able to communicate successfully in various situations and for various purposes.

University Elective Requirements (6 Credit Hours)

Course Code	Course Title	Credit Hours	Prerequisite
Group 1			
ISL101	Islamic Culture	3	None
ISL102	Islamic Ethics	3	None
ISL103	Islam and Contemporary Issues	3	None
Group 2			
LIB101	Introduction to Library Sciences	3	None

MAN101	Man and Environment	3	None
SOC101	Introduction to Sociology	3	None
SPT101	Special Topics	3	None
CS205	Computer Applications	3	CS104
BA161	Introduction to Entrepreneurship	3	None

Course Descriptions:

ISL101	Islamic Culture	Prerequisite: None

The course deals with the concept of culture in general and the concept of Islamic culture in particular. It studies the characteristics of Islamic culture, its sources, fields of study and role in the creation of the Islamic character. It also deals with the so-called cultural invasion, its types, methodologies and other related issues.

ISL102	Islamic Ethics	Prerequisite: None

The course stresses the importance of ethics in Islam and the value Islam gives to ethics in general and work ethics in particular. It draws general comparisons of the treatment of ethics along different ages in the history of Islam and offers insights to the possible tools to enhance work ethics according to Islam.

ISL103	Islam and Contemporary Issues	Prerequisite: None

The course deals with the way Islam deals with contemporary issues such as the phenomenon of fanaticism, determination of Islamic calendar, alms tax (Zakat) on money and jewelry, democracy and government systems, and other scientific and cultural developments.

SOC101	Introduction to Sociology	Prerequisite: None

The course introduces the students to sociology, the scientific study of society. It emphasizes social interaction processes and their impact on members of any society. It also provides students with the knowledge of the main social phenomena and the components of social structure.

MAN101	Man and Environment	Prerequisite: None

The course deals with issues related to the relationship between human beings and the environment they live in focusing on the environment of university students. It draws the students' attention to the importance of environment and the necessity to take care of it.

LIB101	Introduction to Library Sciences	Prerequisite: None

The course introduces students to the library sciences. It gives a general historical review of the development of libraries through the ages and sheds light on the importance of libraries in the development of knowledge and sciences. It also reviews the services that library provides.

SPT101	Special Topics	Prerequisite: None

The course deals with special contemporary topics that are of importance to university students, topics of economic, social, historical or political character.

CS205	Computer Applications	Prerequisite: CS104

The course covers using Microsoft Word for report writing, Microsoft Excel to create a simple accounting sheet and Microsoft Access to create a simple information system (database).

BA161	Introduction to Entrepreneurship	Prerequisite: None

This course aims at studying the concept and explaining the elements of entrepreneurship giving the students the required knowledge and skills to turn ideas into applied projects, according to the rules of company establishment code. Moreover, the student will gain the needed skills for entrepreneurs such as planning, organizing, marketing and financing through a bundle of local, regional and international case studies in entrepreneurship.

General Conditions

Programmes taught in English:

Course	Level	OOPT Mark
ENG097	Elementary English	0 – 34
ENG098	Pre-Intermediate English	35 - 50

ENG097	Elementary English	Prerequisite: None

ENG097 is a non-credit- course that runs for one semester (or term) of 15 weeks. It is required to be taken by students of MIS, CS, and ACC bachelor programmes, whose achievement in the Oxford Online Placement Test (OOPT) is below 34. This remedial course is followed by another remedial course of English. ENG097 is a foundation course for beginner learners. It is intended for students who have already learned little English, but who do not yet feel confident enough to move on.

ENG098	Pre-Intermediate English	Prerequisite: None

ENG098 is a non-credit-hour course that runs for one semester (or term) of 15 weeks. It is the second of English remedial courses which some ASU incoming students of MIS, CS, ACC bachelor programmes are required to take during their first year of study on account of either their scores in the Oxford Online Placement Test or because they have already successfully studied ENG097. It is a pre-intermediate course that provides practice in the four language skills: listening, speaking, reading and writing as well as a review of grammatical structures and vocabulary .It aims at exposing students to a wide variety of reading passages. The course is intended to upgrade students' overall proficiency in the English Language in order to be able to pursue more advanced English ASU courses (i.e., ENG111 and ENG112), and to eventually move to their specialised programme courses.

Programmes taught in Arabic:

Course	Level	OOPT Mark
ENG099	Remedial English	0 - 40

ENG099	Remedial English	Prerequisite: None

Remedial English (099) course is intended for low-intermediate freshmen students whose medium of instruction is Arabic. It is a non-credit-hour course that runs for one semester (or term) of 15 weeks. It is for some students who, on the basis of their score in Oxford Online Placement Test (OOPT), are required to take during their first year of study. It is an intensive course that is meant to upgrade students' overall proficiency in the English Language in order for them to be able to pursue more advanced English ASU courses (i.e., English 1 and English 2), and to eventually move to specialised ASU-based courses. The course presents English grammar through lively activities where students practice the new structures in a variety of contexts to help them master these structures.

BACHELOR

IN

INTERIOR DESIGN

Programme Leader

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Programme Details

Teaching institution	Applied Science University
College	Arts and Science
Department	Design and Arts
Programme	Interior Design
Certificate	Bachelor Degree
Study	Full-time
Academic Year	2016/2017
Language of Study	Arabic

Aims of the Programme

1. To prepare graduates in the field of interior design who are able to meet the labour market needs in the Kingdom of Bahrain and the GCC.

2. To prepare graduates proficient in the practical side of the interior design field, especially in the practical technology, to open wider future opportunities for teaching and learning.

3. To prepare graduates capable of looking into the broader human and environmental needs in their designs.

4. To prepare creative graduates who are able to apply systemic methodologies and creative thinking to respond to cultural and environmental changes.

5. To prepare graduates who carry a vision of care towards their society respecting human and cultural diversification and are aware of achieving future needs in a sustainable development.

Programme Structure

1. Minimum Study Period: 3 Years
2. Maximum Study Period: 8 Years
3. Number of Credit hours: 138 Credit hours
4. Number of Courses: 45 Courses

Study Plan

Year 1 – Semester 1 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
DAD121	History of Ancient and Middle Art	3	0	3	None
DAD111	Introduction to Drawing	0	6	3	None
DAD112	Principles of Architectural Drawing	1	4	3	None
DAD131	Principles of Form and Design	1	4	3	None
CS104	Computer Skills	2	2	3	None
ENG101	English Language I	3	0	3	None

Year 1 – Semester 2 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
DAD122	History of Islamic Art	3	0	3	DAD121
DAD123	Colour Theories and Techniques	1	4	3	None
IND113	Perspective	0	6	3	DAD112
IND132	Design and Human Factors	2	2	3	DAD131
ARB101	Arabic Language	3	0	3	None
ENG102	English Language II	3	0	3	ENG101

Year 2 – Semester 1 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
IND231	Interior Design 1	1	4	3	IND132
IND211	CAD 1	1	4	3	DAD112
IND241	Interior Structures and Constructions 1	2	2	3	IND132
DAD221	History of Modern and Contemporary Art	3	0	3	DAD122
-	College Elective			3	None
HBH105	Bahrain Civilisation and History	3	0	3	None

Year 2 – Semester 2 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
IND232	Interior Design 2	1	4	3	IND231
IND212	CAD 2	2	2	3	IND211
IND242	Interior Structures and Constructions 2	2	2	3	IND241
IND243	Interior Materials and Finishes	2	2	3	IND241
IND233	Design Process	3	0	3	IND231
LFS102	Thinking and Communication Skills Development	3	0	3	None

Year 3 – Semester 1 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
IND331	Interior Design 3	1	4	3	IND232
IND311	CAD 3	2	2	3	IND212
IND341	Lighting and Acoustics Techniques	3	0	3	IND232
IND342	Building Services	3	0	3	IND242

IND333	Furniture Design	1	4	3	IND232
-	University Elective	3	0	3	None

Year 3 – Semester 2 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
IND332	Interior Design 4	1	4	3	IND331
IND343	Sustainability in Design	2	2	3	IND331
IND361	Construction Projects Management	3	0	3	IND243
IND321	History of Interior Design	3	0	3	IND232
IND363	Internship (BID)	-	-	3	90 Credit Hours + IND331
-	Major Elective	-	-	3	None

Year 4 – Semester 1 (16 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
IND431	Interior Design 5	1	6	4	IND332
IND432	Graduation Project – Programming (BID)	2	2	3	IND332
IND451	Code	3	0	3	IND361
-	University Elective	-	-	3	None
-	Major Elective	-	-	3	

Year 4 – Semester 2 (14 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
IND433	Graduation Project (BID)	0	10	5	IND432
IND462	Ethics and Practice of the Profession	3	0	3	IND361
-	College Elective	3	0	3	None
HR106	Human Rights	3	0	3	

Levels and Courses

University Requirements

Compulsory 21 Credit Hours

Course Code	Course Title	Credit Hours
ARB101	Arabic Language	3
ENG101	English Language 1	3
ENG102	English Language 2	3
LFS102	Thinking and Communication Skills Development	3
CS104	Computer Skills	3
HBH105	Bahrain Civilisation and History	3
HR106	Human Rights	3

University Electives (A)

Course Code	Course Title	Credit Hours	Prerequisite
ISL101	Islamic Culture	3	None
ISL102	Islamic Ethics	3	None
ISL103	Islam and Contemporary Issues	3	None

University Electives (B)

Course Code	Course Title	Credit Hours	Prerequisite
SOC101	Introduction to Sociology	3	None
MAN101	Man and Environment	3	None
LIB101	Introduction to Library Sciences	3	None
SPT101	Special Topics	3	None

College Compulsory (15 Credit Hours)

Course Code	Course Title	Credit Hours	Prerequisite
DAD121	History of Ancient and Middle Art	3	None
DAD122	History of Islamic Art	3	DAD121
DAD221	History of Modern and Contemporary Art	3	DAD122
DAD112	Principles of Architectural Drawing	3	None
DAD111	Introduction to Drawing	3	None

College Electives (6 Credit Hours)

Course Code	Course Title	Credit Hours	Prerequisite
DAD322	Industry and Art	3	None
DAD323	Artistic Criticism	3	DAD221
DAD324	Psychology and Sociology Design	3	GRD231
DAD211	Graphic Presentation Techniques	3	DAD112

Major Compulsory (84 Credit Hours)

Course Code	Course Title	Credit Hours	Prerequisite
DAD123	Colour Theories and Techniques	3	None
IND321	History of Interior Design	3	IND232
IND132	Design and Human Factors	3	DAD131
IND233	Design Process	3	IND231
DAD131	Principles of Form and Design	3	None
IND231	Interior Design 1	3	IND132
IND232	Interior Design 2	3	IND231
IND331	Interior Design 3	3	IND232
IND332	Interior Design 4	3	IND331
IND431	Interior Design 5	3	IND332
IND211	CAD 1	3	DAD112
IND212	CAD 2	3	IND211
IND311	CAD 3	3	IND212
IND241	Interior Structures and Constructions 1	3	IND132
IND242	Interior Structures and Constructions 2	3	IND241
IND363	Internship	3	90 credit h.
IND361	Construction Projects Management	3	IND243

IND462	Ethics and Practice of the Profession	3	IND361
IND433	Graduation Project (Interior)	3	IND432
IND432	Graduation Project (BID)	2	IND332
IND333	Furniture Design	3	IND232
IND113	Perspective	3	DAD112
IND243	Interior Materials Finishes	3	IND241
IND341	Lighting and Acoustics Techniques	3	IND232
IND342	Building Services	3	IND242
IND343	Sustainability in Design	3	IND331
IND451	Code	3	IND361

Major Electives (6 Credit Hours)

Course Code	Course Title	Credit Hours	Prerequisite
IND312	CAD 4	3	IND311
IND334	Interior Plantations and Courtyard Design	3	IND331
IND421	Bahrain's Experience in Interior Design	3	IND331
IND422	Rehabilitation of Historical Buildings	3	IND242
IND300	Special Topics in Interior Design	3	None

Programme Intended Learning Outcomes (PILOs)

A	Knowledge and Understanding *After completing this programme graduates will be able to:*
A1	Know the theoretical base and contrast of social aspects and their link to elements of interior design and historical development of design models.
A2	Show the theoretical base for the design process within its cultural and environmental framework to accomplish the desired development.
A3	Know the specialised principles and concepts associated with construction and technology of environmental and engineering materials and systems of the building and their integrations.
A4	Clarify the building codes affecting formulation of the interior design.
A5	Describe the ethical framework of professional practice, its formats and methods of projects management.

Teaching and Learning Methods

Courses are delivered through a series of integrated design projects, interrelated coursework. Students' education and progress are monitored, supported and developed through a sets of methods, including*:*

- Lectures: Lectures provide knowledge, theoretical and practical information within context
- Seminars: Seminars qualify for research or logical examination for all theories, issues, methods and techniques of design.

Assessment Methods

- Theoretical tests
- Oral and interactive tests
- Student preparation of written documents about specified subjects (support self-learning)

B	Subject-Specific Skills *After completing this programme graduates will be able to:*
B1	Submit design concepts and solutions effectively in writing, verbally, graphically, and prepare detailed schemes to illustrate these solutions.
B2	Apply the concepts of human behaviour and design principles to all historical references to formulate design solutions.
B3	Define the elements and specifics of design problems, collect and analyse the relevant information, crystallise design ideas and solutions on the overall and details levels.
B4	Prepare and read information with detailed schemes.
B5	Apply building, safety and health codes on interior design level.

Teaching and Learning Methods

- Practical studio: to develop work and obtain benefits and tips in the context of work professionalism.
- Trainings: to test conceptual development, criticise design proposals, learning and comparative analysis, assessment, advice and evaluation through communication and media strategies.
- Computer laboratories: to encourage students to build and deliver their design ideas through computer graphics.
- Workshops: to acquire and develop special skills that can be applied in specified projects works.
- Field visits: to gain experience in the context of real world and design applications in built-up environments and expand the student knowledge of design elements.

Assessment Methods

- Assessment of presentation methods (audiovisual), both manual and by computer.
- Exams: draw and colour (free-hand) variety of scenes (support self-learning).
- Apply theories, methodologies and different techniques of design.

- Prepare and read detailed and constructive drawings for interior design topics.
- Apply requirements of building, safety, and health on interior design projects.

C	Cognitive (Intellectual) Skills *After completing this programme graduates will be able to:*
C1	Analyse, criticize, and follow correct thinking strategies.
C2	Think, imagine visually and volumetrically (including presentation of diverse ideas, different methods to understand the subject, submission of authentic and creative concepts).
C3	Analyse and understand design problems and formulate proper solutions.
C4	Determine the role and specifications of other professional specialties relevant to interior design field.
C5	Organise events to achieve the ideal working timetable and develop alternative schemes.

Teaching and Learning Methods

- Seminars: to qualify for research or logical examination of all theories, issues, methods, techniques and views of design.
- Training: to test conceptual development, criticize design proposals, learning and comparative analyses, assessment, advice and evaluation through communication and media strategies.
- Workshops: to acquire and develop special skills that can be applied in specific work projects.
- Field visits: to gain experience in the real world context and design applications in built-up environments and expand the students' knowledge of design elements.
- Presentation reviews: to show design proposals in detail, receive assessments feedbacks of proposed projects and transfer them into handbooks and guidelines for future presentations.
- Independent study (self-learning): to enhance and develop independency of research, critical analysis, decision-making, planning and self-management, and consider their impacts on work.

Assessment Methods

- Ability to think logically and diagnose problems.
- Case studies to provide solutions for different design problems.
- Assessment of design alternatives submitted and their logic (to support self-learning).
- Projects to demonstrate the level of visual imagination, volumetric visualization, and submitting authentic and creative concepts.
- Assessment of collection and analysis of information, build requirements programme for diverse projects (to support self-learning).
- Oral and interactive exams.

D	General and Transferable Skills *After completing this programme graduates will be able to:*
D1	Deal and effectively communicate with customers and teams, understand their situations and needs.
D2	Perform basic works of manual applications and programmes of information technology (writing processing, making, dispersing and sorting panels).
D3	Collect and analyse information, formulate conclusions and effectively display them.
D4	Deal with challenges and respond to changes of work conditions and self-development.

Teaching and Learning Methods

- Seminars: to qualify for research or logical examination of all theories, issues, methods, techniques and views of design.
- Training: to test conceptual development, criticize design proposals, learning and comparative analyses, assessment, advice and evaluation through communication and media strategies.
- Workshops: to acquire and develop special skills that can be applied in specific work projects.

- Field visits: to gain experience in the real world context and design applications in built-up environments and expand the students' knowledge of design elements.
- Presentation reviews: to show design proposals in detail, receive assessments feedbacks of proposed projects and transfer them into handbooks and guidelines for future presentations.
- Independent study (self-learning): to enhance and develop independency of research, critical analysis, decision-making, planning and self-management, and consider their impacts on work.

Assessment Methods

- Report on efficiency of field training performance through assessment of the training body.
- Written reports about specific topics (to support self-learning).
- Assessment of presentation methods (audio and visual), through oral and interactive exams.
- Justify solutions, communicate with and convince others.
- Work with team spirit.
- Possess a sense of responsibility, self-organisation, motivation and management.

مخطط ربط مخرجات التعلم للمقررات الدراسية بمخرجات التعلم للبرنامج (تصميم داخلي)																						
Compulsory Modules			CLOs	Knowledge and Understanding					Subject-Specific Skills					Cognitive (Intellectual) Skills					General and Transferable Skills			
Year	Module Code	Module Name		A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	D1	D2	D3	D4
1	DAD121	History of Ancient & Middle Art	a1	✓		✓																
			a2		✓																	
			c1											✓								
1	DAD111	Introduction to Drawing	a1		✓																	
			a2		✓																	
			b1							✓												
			b2							✓												
			c1												✓							
1	DAD112	Principles of architectural Drawing	a1			✓																
			b1						✓													
			b2										✓									
			c1												✓							
1	DAD131	Principle of Form & Design	a1		✓																	
			b1							✓												
			b2							✓												
			c1												✓							
1	DAD122	History of Islamic Arts	a1	✓																		
			a2		✓																	
			c1											✓								
1	DAD123	Colour Theories & Techniques	a1	✓																		
			a2		✓																	
			b1						✓													
			b2							✓												
			c1												✓							
			d1																✓			
1	IND113	Perspective	a1		✓																	
			b1						✓	✓												
			c1											✓								
1	IND132	Design and Human Factors	a1	✓			✓															
			b1						✓													
			b2							✓												
			c1											✓								
2	ND231	Interior Design 1	a1		✓																	
			a2			✓																
			b1						✓													
			b2								✓											
			c1												✓							
			c2													✓						
			d1																	✓		
			d2																	✓		
2	IND211	CAD 1	a1		✓																	
			a2		✓																	
			b1						✓													
			b2									✓										
			c1												✓							
			d1																	✓		
			d2																	✓		
2	IND241	Interior Structures & Constructions 1	a1	✓	✓																	
			b1							✓	✓											
			c1													✓						
			d1																	✓		
2	DAD221	History of Modern & Contemporary Art	a1	✓																		
			a2		✓																	
			c1											✓								
2	IND232	Interior Design 2	a1	✓	✓																	
			b1						✓				✓									
			c1											✓		✓						
			d1																	✓		
2	IND212	CAD 2	a1		✓																	

			b1						✓			✓										
			c1												✓							
			d1																	✓		
			d2																	✓		
2	IND242	Interior Structures & Constructions 2	a1	✓																		
			a2		✓																	
			b1							✓												
			b2								✓											
			c1												✓							
			c2												✓						✓	
			d1																			
2	IND243	Interior Materials & Finishes	a1			✓																
			a2			✓																
			b1							✓												
			c1													✓						
			c2													✓						
			d1																	✓		
2	IND233	Design Process	a1		✓																	
			b1							✓												
			c1												✓							
			d1																		✓	
			d2																			✓
3	IND331	Interior Design 3	a1		✓																	
			a2	✓																		
			b1						✓													
			b2									✓										
			c1										✓									
			c1												✓							
			d1																✓			
			d2																	✓		
3	IND311	CAD3	a1			✓																
			a2			✓																

			b1						✓			✓										
			c1												✓							
			c2												✓							
			d1																	✓		
3	IND341	Lighting & Acoustics Techniques	a1		✓																	
			a2			✓																
			b1								✓											
			b2									✓										
			c1												✓							
			c2													✓						
			d1																		✓	
3	IND342	Building Services	a1			✓																
			a2			✓																
			b1									✓										
			b2									✓										
			c1										✓		✓	✓						
			d1																			✓
			d2																			✓
3	IND333	Furniture Design	a1	✓																		
			a2			✓																
			a3	✓																		
			b1							✓												
			b2									✓										
			b3							✓												
			c1												✓							
			c2												✓							
			c3												✓							
			d1																✓			
			d2																	✓		
3	IND332	Interior Design 4	a1		✓																	
			a2			✓																
			b1						✓													

			b2										✓								
			b3						✓												
			c1											✓							
			c2													✓					
			c3											✓							
			d1																✓		
			d2																	✓	
3	IND343	Sustainability in Design	a1		✓	✓															
			b1									✓									
			c1												✓		✓				
			d1																	✓	
3	IND361	Construction Projects Management	a1					✓													
			b1										✓								
			c1											✓		✓					
3	IND321	History of Interior Design	a1	✓																	
			a2	✓																	
			a3	✓																	
			c1											✓							
			c2														✓				
			d1																✓	✓	
			d2																		✓
3	IND361	Internship	a1					✓													
			a2					✓													
			b1						✓												
			b2							✓											
			b3									✓									
			c1										✓				✓				
			c2												✓						
			d1															✓	✓		
			d2																		✓
4	IND431	Interior Design 5	a1	✓																	
			a2		✓																

			b1						✓	✓											
			b2								✓										
			c1												✓						
			c2											✓							
			c3										✓								
			d1															✓			
			d2																✓	✓	
4	IND432	Graduation Project-Programming	a1	✓	✓																
			b1						✓		✓										
			c1										✓		✓		✓				
			d1															✓	✓		
4	IND451	Code	a1			✓	✓														
			b1								✓										
			c1										✓		✓						
			d1																	✓	
4	IND433	Graduation Project	a1			✓															
			b1						✓	✓											
			b2						✓		✓										
			b3									✓	✓								
			c1											✓	✓						
			c2												✓	✓					
			c3														✓				
			d1																✓		✓
			d2															✓		✓	
4	IND462	Ethics & Practice of the Profession	a1			✓		✓													
			b1						✓				✓								
			c1													✓	✓				
			d1															✓			✓

Elective Modules																						
2	DAD211	Graphic Presentation techniques	a1	✓																		
			b1						✓													
3	IND312	CAD4	a1		✓																	
			a2		✓																	
			b1						✓			✓										
			c1												✓							
			d1																	✓		
			d2																	✓		
3	IND334	Interior Plantations & courtyard Design	a1		✓	✓																
			b1							✓				✓								
			c1												✓		✓					
			d1																	✓	✓	
3	DAD322	Industry and Art	a1	✓																		
			a2	✓																		
			b1						✓	✓												
			c1												✓							
			d1																	✓		
3	DAD322	Artistic Criticism	a1		✓																	
			a2	✓																		
			c1													✓						
			c2											✓								
			d1																	✓	✓	
3	DAD324	Psychology & Sociology Design	a1	✓																		
			a2	✓																		
			b1						✓	✓												
			c1													✓						
			d1																		✓	
3	IND300	Special Topics in Interior Design	a1	✓																		
			a2	✓																		
			b1						✓	✓												
			c1											✓								
			c2												✓							
4	IND421	Bahrain's experience in interior design	b1								✓											
			c1											✓	✓	✓						
			c2																✓	✓	✓	✓
			d1																			
4	IND422	Rehabilitation of historic buildings	a1		✓	✓																
			b1						✓													
			c1											✓		✓						
			d1																		✓	✓

Course Descriptions

DAD121	History of Ancient and Middle Art	Prerequisite: None

The course includes studying the conception and continuous evolution of art and architecture starting from the Stone Age going through Mesopotamia, Ancient Egypt, Greek, Roman, Byzantine, the Gothic, Renaissance and ending with Baroque and Rococo areas.

DAD122	History of Islamic Art	Prerequisite: DAD121

The course includes studying the history of Islamic art, its properties, features, characters, and origins as well as its role in the Islamic culture from its dawn, going through the Caliphate, Abbasid, Fatimid, Mamluk and Ottoman periods. It also show how it influenced art in East Asia and the western world. The course also determines the most prominent trends and methods used in each Islamic period and how they affected crafts and fine arts.

DAD221	History of Modern and Contemporary Art	Prerequisite: None

The course includes familiarization with the most significant art schools, art movements, theories of modern and contemporary art, pioneers of the art of photography, sculpture, architecture, applied arts. Moreover it discuss the aesthetic effects on the outcomes of architectural and various design as well as its influence and reflection on community arts and the environment.

DAD112	Principles of Architectural Drawing	Prerequisite: None

The course works on creating an affinity between the student and the methods and application of architectural drawing. This could be achieved by introducing means of interest to learn and training, using different technical drawing techniques and the right tools for drawing appropriate plans and elevations of objects relying on architectural language for illustrating various designs and sketches.

DAD111	Introduction to Drawing	Prerequisite: None

Familiarization with the tools and materials of drawing and how to use them in addition to the principles of freehand drawing and free perspective. Moreover, it studies shadows and light and their gradient reflection on various objects and materials. Additionally, the course develop the practical skills of students regarding freehand sketching by a pencil with all the associated techniques. All of which is done through various practical applications.

DAD322	Industry and Art	Prerequisite: None

The course familiarizes students with the role of art in industries, alongside with studying modern theories in industrial design and the role of mechanization and raw materials on the shape and function of the design, and the impact of that on the evolution of modern design theories. Also to execute practical applications that have beneficial and aesthetic forms, such as lighting design object, containers, tools, and stationary.

DAD323	Artistic Criticism	Prerequisite: DAD221

The course covers the review of the intellectual path of Art Criticism. It searches for art criticism means, and the main theoretical and philosophical principles of criticism ideologies. It also attempts to broaden the artistic vision and thinking process of the students, and reinforce the ability to properly criticize art.

DAD324	Psychology and Sociology Design	Prerequisite: DAD231

In this course students study the psychological aspect and its influence on the success of various designs reflected heavily on the occupants' or viewers' moods. Moreover, it exposes the major role that designers play in affecting social behaviour of users and their habits.

DAD211	Graphic Presentation Techniques	Prerequisite: DAD112

In this course students learn about the methods and tools for illustrating textures and plans required for design. In addition to that, the technologies of displaying them and outputting them for design works. All of which, done through various different phases that develop the students' skill sets in this aspect.

IND123	Colour Theories and Techniques	Prerequisite: None

The course includes recognition of the colour theory, its character and origins. It studies the types of colours, and the techniques of applying them as well as what they are best suitable from an artistic and design point of view. Furthermore, it studies the social and psychological effect that colours have on humans. Finally, it enables students to employ the proper strategies of colour selection for specific design projects.

IND321	History of Interior Design	Prerequisite: IND232

This course covers history's most prominent theories and movements related to interior design in the twentieth century. It studies the social, economic, technological and anthropological considerations and effects on the design theory. Some of which are carried over from and to other historical periods.

IND132	Design and Human Factors	Prerequisite: IND131

The course covers humans' ergonomics and pattern of their movement through studying the proportions of human body and its system of motion. Also, how it affects the dimensions of interior spaces and the space allocated for various functions, the dimensions of furniture and equipment used inside the buildings. It also covers studying the standard size of human scale and also the requirements for those with special needs.

IND233	Design Process	Prerequisite: IND231

The course covers the ways in which a designer, through a set of procedures, can make a big step from their current state into future potential realities. The primary principle concentrates on developing the methodology, reaching logical design solutions for any issue.

DAD131	Principles of Form and Design	Prerequisite: None

The course covers the basic principles of design. Specifically, the elements of design and the two and three-dimensional forms through projects and practical applications. This aims at making student develop a sense of recognition for shapes, forms and spaces.

IND231	Interior Design 1	Prerequisite: IND132

The course introduces the interior design aspect in term of elements, basic principles and techniques, and the relation with the arts, architecture and human psychology. This includes; analysing interior spacing, distributing various functions, types of motion, human considerations and fundamental dimensions, in order to implement simple projects with clear presentation.

IND232	Interior Design 2	Prerequisite: IND231

The course covers organizing, planning and designing the interior spaces of residential activities with all required areas. It also covers practices of basic principles and understandings of interior design, as well as practical applications in the form of projects. The projects serve residential functions.

IND331	Interior Design 3	Prerequisite: IND232

The course covers important aspects and design concepts of commercial buildings. It undertakes studying interior design and the role of the designer to create spaces and motion patterns, as well as distribute various commercial buildings while maintaining the highest level of functionality. It also takes on what the structures may require, such as design standards and fine treatments for interior space elements. That is done through preparing interior designs (from intermediate to complex) for save spaces and solving any problem that may arise throughout the design phase.

IND332	Interior Design 4	Prerequisite: IND331

The course covers the aspects and considerations of interior design for administrative buildings. That includes movements, division of functions, occupancy and design standards. It also concerns the various practical applications of those structures. A submission of project which carries out all the mentioned requirements is demanded.

IND431	Interior Design 5	Prerequisite: IND331

The course covers the most important aspects and considerations when designing interiors for multi-purpose buildings. It includes studying the boundaries of the interior scene, the movements inside, division of functions and what the building may require in terms of standards and design criteria for its spaces. Through working as a part of a design team, work and data analysis is required. This will range from collecting the building requirements, as well as the users' and occupants need. After taking all these factors into consideration, a professional design solution can be presented.

IND432	Graduation Project (Programming)	Prerequisite: IND332

The course provides the necessary knowledge and tools that enable students to conduct scientific studies and utilise methodical, analytical approaches to all aspects of design projects. Namely, the graduation project where the student selects a topic as a case study with coordination from the course advisor, and seek approval from the department's council. The study includes all the information and data related to the project, including professional aspects and ways of expression. One of the requirements of the project is studying similar cases, going through their issues and drawing appropriate conclusions. Then, visualise their own solution, study it, and present a report (two copies) with the necessary illustration such as plans, images and drawings.

IND433	Graduation Project	Prerequisite: IND432

The course provides an opportunity to express one's self through design. Achieving that through the collection of theories learned, skills obtained and other experiences in the programme. In this course, the student presents a variety of comprehensive interior design projects that were researched in prerequisite IND432. That includes all the plans and drawings necessary to properly express the concepts, aided by detailed drawings and models and materials. All of which must be presented in a professional manner. Finally, the projects are demonstrated, discussed and judged by a jury consisting of specialised internal and external lecturers and experts, including the advisor of the project.

IND333	Furniture Design	Prerequisite: IND232

The course covers the basic principles of furniture and their types and follows up its evolution in civilizations through history with a primary focus on the role of technology and modern materials involvement and how that support the development. In addition, it discusses how these reflected on the function and aesthetics of design through patterns, style, expression and standardization. Moreover, it studies the principle of design preparation for furniture is made. Finally, it demonstrates plans and detailed work of various types of furniture (including real size models) that students learn from, or replicate if possible.

IND113	Perspective	Prerequisite: DAD112

The course covers the study of the basics geometrical drawing. It gives the designer and the viewer the perspective of the 3rd dimension shapes and spaces in a geometrical way that permits to review and study design recommendations through various practical applications.

IND211	CAD 1	Prerequisite: DAD112

The course develops students' skills in sketching and drawing in 2D utilizing AUTO CAD software. The course is considered to be the first chapter in teaching software and its applications in interior design, where students can draw and process 2D shapes and fine geometrical dimensions.

IND212	CAD 2	Prerequisite: DAD211

The course attempts to develop the students' skills in drawing and studying 3 dimensional drawings with the help of the computer software AutoCAD. It follows up to CAD 1, and enables the students to shape, demonstrate and process all 3D shapes and succeed at producing precise environments that simulate reality to a quite extent.

IND311	CAD 3	Prerequisite: DAD212

The course covers the basic skills of the major that concern utilizing 3D drawing software, and familiarization with the application of such software in the field of interior design. All of which enable students to draw and process 3D shapes (including highly complex models) that is related to interior design (such as furniture), and succeed at producing complex models and shapes that simulate reality to a quite extent.

IND241	Interior Structure and Constructions	Prerequisite: IND132

The course takes covers interior design's most important structures, compositions, structural systems and new technologies for interior spaces and methods for applying finishing materials. It focuses on the principles and basics of preparing schematics and engineering plans representation.

IND242	Interior Structure and Constructions 2	Prerequisite: IND241

The course covers studying and preparing detailed schematics, shop drawings and working drawings for interior design structures. It utilizes the knowledge and experience gained from using Auto CAD in the CAD1 course, and it associates knowledge of modern technologies and methodologies of constructing with interior design components and finishing materials.

IND243	Interior Materials and Finishes	Prerequisite: IND241

The course covers how various types of materials can be integrated with one another in designing interior spaces. Elements include materials and textures such as types of wood, stone, metals, fabrics, curtains, carpets, etc. The course also presents said materials' various types, how they are made, and their physical properties as well aesthetic ones with the aim to know how to integrate them in various design projects.

IND341	Lighting and Acoustics Techniques	Prerequisite: IND232

The course covers the core principles, theories and applications in lighting and acoustic in interior spaces. In addition to that, it demonstrates modern systems used in artificial lighting and the technical specifications of each of them. Also, it studies the design considerations related to acoustics in halls, theatres and stages as well as practical studies that include simple calculations and technical applications with the help of various visual aids and sketches.

IND342	Building Services	Prerequisite: IND242

The course covers an important aspect of mechanical services, ventilation and air conditioning (cooling, and heating). In addition to that, it studies the sanitary services and supply systems as well as their installation. Finally, it studies the fire protection and alert systems in buildings.

IND343	Sustainability in Design	Prerequisite: IND331

The course covers one of the most important considerations when practicing the profession for green designs and sustainable buildings, in order to protect the environment and ensure sustainability. The goal is to minimise the negative effects on the environment of earth. In addition, it helps facing the ever growing financial expenses such as the increased cost of energy and construction material.

IND451	Code	Prerequisite: IND361

The course covers the set of requirements, conditions, standards, and their associated laws and regulations regarding building and construction activities in order to guarantee general safety and health. The content includes how to achieve durability, stability, permanency of buildings and constructions structure, and ensures a healthy environment, ventilation, lighting, as well as conserves water and energy. Finally, the course discusses how to protect the property from fire and other hazards and save the residents' lives.

IND361	Construction Projects Management	Prerequisite: IND243

The course deals with syllabus of construction management projects. It follows up the project development, planning and control of time. It calculates quantities needed to estimate different project cost including labour, tools, and finance expense, according to the technical specifications required.

IND462	Ethics and Practice of the Profession	Prerequisite: IND361

The content of this course revolves around the ethics, responsibilities and professionalism that should come with being an interior designer. It exposes the importance, as well as its effect on relationships between authorities, advisors, project owners, contractors and workers. The course also familiarizes students with the methods of preparing a project and documentation, as well as submitting tenders and monitoring construction and executive contracts. Finally, it studies the laws and regulations of interior design in Bahrain.

IND363	Internship	Prerequisite: IND331 + 90 credit hours

The courses enable the students to gain experience in the work field and apply what they academically learned in practice. This will increase their knowledge and skills necessary to keep up with future job requirements. This would positively stimulate working in a culturally diverse environment. Conversely, this would help reflect skills and interest learned from field training experience in the field of study and student life.

IND312	CAD 4	Prerequisite: IND311

The course develops students' skills in utilizing 3D drawing software, continuing from IND311. Skills include building interior scenes and design ideas, no matter how complex, studying the visual effects and aesthetics, and the ability to simulate lighting and realistic materials. Finally, it studies the combined effect on the interior environment.

IND421	Bahrain's Experience in Interior Design	Prerequisite: IND331

The course introduces the student with how to conduct a scientific field study for selected interior design locations. It includes collecting and analysing the necessary data and information in order to gather appropriate conclusion to the local experience, and explore the future of interior design.

IND334	Interior Plantations and Courtyard Design	Prerequisite: IND331

The course covers the most important principles of designing gardens including trees and plants used. In addition, different approaches are used to deal with the interior spaces in between buildings and the related materials and accessories. All these will be discussed with a consideration of the interior spaces when designing selected case study locations.

IND422	Rehabilitation of Historic Buildings	Prerequisite: IND242

The course provides a theoretical framework of the principles and concepts to rehabilitate historical and traditional buildings. It also enables students to select the appropriate procedures to restore and renovate them, from an interior design perspective. Ultimately, to breathe a new life into old or historical buildings and making them functional again.

IND300	Special Topics in Interior Design	Prerequisite: None

The course covers studying special topics of most prominent concepts that are related to interior design and their applications including seminars chosen by the student under the supervision of the course instructor.

BACHELOR

IN

GRAPHIC DESIGN

Programme Leader

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Programme Details

Teaching institution	Applied Science University
College	Arts and Science
Department	Design and Arts
Programme	Graphic Design
Certificate	Bachelor Degree
Study	Full-time
Academic Year	2016/2017
Language of Study	Arabic

Aims of the Programme

1. To prepare graduates who are able to work effectively in the field of graphic design to become creative thinkers, scientific researchers, and ethical professionals.
2. To equip graduates with the required skills and knowledge in the field of graphic design in addition to printing, publishing and packaging; to meet the labour market needs in the Kingdom of Bahrain and the GCC.
3. To produce graduates who are able to keep up with new technology and broaden their scientific and practical horizons.

Programme Structure

1. Minimum Study Period 3 Years
2. Maximum Study Period 8 Years
3. Number of Credit Hours 139
4. Number of Courses 45

Study Plan

Year 1 – Semester 1 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
DAD121	History of Ancient and Middle Art	3	0	3	None
DAD111	Introduction to Drawing	0	6	3	None
DAD123	Colour Theories and Techniques	1	4	3	None
DAD112	Principles of Architectural Drawing	1	4	3	None
ENG101	English Language 1	3	0	3	None
CA104	Computer Skills 1	2	2	3	None

Year 1 – Semester 2 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
DAD122	History of Islamic Art	3	0	3	DAD121
DAD123	Colour Theories and Techniques	1	4	3	None
IND113	Perspective	0	6	3	DAD112
IND132	Design and Human Factors	2	2	3	DAD131
ARB101	Arabic Language	3	0	3	None
ENG102	English Language 2	3	0	3	ENG101

Year 2 – Semester 1 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
DAD221	History of Modern and Contemporary Art	3	0	3	DAD122
GRD231	Graphic Design 1	1	4	3	DAD131
GRD215	Photography	1	4	3	None
GRD212	Computer Graphic 2	1	4	3	GRD115
GRD214	Arabic Calligraphy	1	4	3	None
	University Compulsory			3	

Year 2 – Semester 2 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
GRD211	Drawing and Painting 2	0	6	3	GRD114
GRD232	Graphic Design 2	1	4	3	GRD231
GRD233	Typography	1	4	3	GRD231
GRD222	History of Graphic Design	3	0	3	GRD231
	College Elective			3	
	University Elective			3	

Year 3 – Semester 1 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
GRD331	Illustration 1	1	4	3	GRD211
GRD332	Graphic Design 3	1	4	3	GRD232
GRD341	Printing Techniques	2	2	3	GRD231

GRD314	Computer Graphic 3	1	4	3	GRD212
	University Compulsory			3	
	College Elective			3	

Year 3 – Semester 2 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
GRD335	Multimedia	1	4	3	GRD212
GRD333	Graphic Design 4	1	4	3	GRD332
GRD313	Marketing and Design	3	0	3	GRD332
GRD342	Design Management and Specifications	3	0	3	GRD341
GRD312	3D Computer Design	1	4	3	GRD212
	University Compulsory			3	

Year 4 – Semester 1 (15 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
GRD432	Graduation Project 1	3	0	3	GRD333
GRD431	Graphic Design 5	1	4	3	GRD333
GRD436	Web Design	1	4	3	GRD333
	Major Elective			3	
GRD343	Internship			3	GRD333 + 90 credit h.

Year 4 – Semester 2 (16 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
GRD433	Graduation Project 2	0	8	4	GRD432
GRD434	Illustration 2	1	4	3	GRD331
GRD441	Ethics and Practice of the Profession	3	0	3	GRD342
	Major Elective			3	
	University Elective			3	

Levels and Courses

University Requirements

University Compulsory (21 credit hours)

Course Code	Course Title	Credit Hours
ARB101	Arabic Language	3
ENG101	English Language 1	3
ENG102	English Language 2	3
LFS102	Thinking and Communication Skills Development	3
CS104	Computer Skills	3
HBH105	Bahrain Civilisation and History	3
HR106	Human Rights	3

University Electives (A)

Course Code	Course Title	Credit Hours	Prerequisite
ISL101	Islamic Culture	3	None
ISL102	Islamic Ethics	3	None
ISL103	Islam and Contemporary Issues	3	None

University Electives (B)

Course Code	Course Title	Credit Hours	Prerequisite
SOC101	Introduction to Sociology	3	None
MAN101	Man and Environment	3	None
LIB101	Introduction to Library Sciences	3	None
SPT101	Special Topics	3	None
CS205	Computer Applications	3	CS104

College Compulsory (15 credit hours)

Course Code	Course Title	Credit Hours	Prerequisite
DAD121	History of Ancient and Middle Art	3	None
DAD122	History of Islamic Art	3	DAD121
DAD221	History of Modern and Contemporary Art	3	DAD122
DAD112	Principles of Architectural Drawing	3	None
DAD111	Introduction to Drawing	3	None

College Electives

Course Code	Course Title	Credit Hours	Prerequisite
DAD322	Industry and Art	3	None
DAD323	Artistic Criticism	3	DAD221
DAD324	Psychology and Sociology Design	3	None
DAD211	Graphic Presentation Techniques	3	GRD231
GRD337	Design Process	3	GRD332

Major Compulsory (84 credit hours)

Course Code	Course Title	Credit Hours	Prerequisite
DAD131	Principles of Forms and Design	3	None
GRD114	Drawing and Printing 1	3	DAD111
GRD211	Drawing and Printing 2	3	GRD114
GRD115	Computer Graphic 1	3	CS104
GRD212	Computer Graphic 2	3	GRD115
GRD314	Computer Graphic 3	3	GRD212
GRD214	Arabic Calligraphy	3	None
GRD215	Photography	3	None
GRD312	3D Computer Design	3	GRD212
GRD222	History of Graphic Design	3	GRD231
DAD123	Colour Theories and Techniques	3	None
GRD331	Illustration 1	3	GRD211

GRD231	Graphic Design 1	3	DAD131
GRD232	Graphic Design 2	3	GRD231
GRD332	Graphic Design 3	3	GRD232
GRD333	Graphic Design 4	3	GRD332
GRD431	Graphic Design 5	3	GRD333
GRD432	Graduation Project 1	3	GRD333
GRD433	Graduation Project 2	3	GRD432
GRD434	Illustration 2	3	GRD331
GRD436	Web Design	3	GRD333
GRD233	Typography	3	GRD231
GRD335	Multimedia	3	GRD212
GRD341	Printing Techniques	3	GRD231
GRD313	Marketing and Design	3	GRD332
GRD342	Design Management and Specifications	3	GRD341
GRD441	Ethics and Practice of the Profession	3	GRD342
GRD343	Internship	3	GRD333 + 90 credit h.

Major Electives (6 credit hours)

Course Code	Course Title	Credit Hours	Prerequisite
GRD336	Outdoor Designs	3	GRD332
GRD334	Animation Design	3	GRD331
GRD435	Calligraphy and Design	3	GRD233
GRD116	Anatomy Art	3	DAD111
IND113	Perspective	3	DAD112

Programme Intended Learning Outcomes (PILOs)

A	Knowledge and Understanding *After completing this programme graduates will be able to:*
A1	Explain the theoretical foundations and the aesthetic and historical development of art and graphic design.
A2	Define the concept of visual message and method of transition from the sender via the designer to the normal usages.
A3	Be aware of the techniques, tools and raw materials that are used in the field of graphic design.
A4	Expose the foundations of marketing and business competition and the contribution of the graphic designer in their formulation.
A5	Use appropriate methods of scientific research and design specifications to employ them in advertising campaigns.

Teaching and Learning Methods

Courses are delivered through a series of lectures and interrelated assignments. Students' work is monitored and progress is enhanced through a set of methods including:

- Lectures: to provide theoretical as well as technical knowledge and information with the text.
- E-learning: through the University website (Moodle).
- Library hours: to follow up and enhance the students' development.

Assessment Methods

- Mid and final exams
- Verbal and interactive tests
- Quizzes
- Student reports and projects on certain topics (to enhance self-learning)

B	Subject-Specific Skills *After completing this programme graduates will be able to:*
B1	Apply the design theories and the aesthetic trends to achieve the design works creatively.
B2	Use freehand drawing and colouring, fonts and design of computer skills for the implementation of contemporary design solutions.
B3	Develop graphic design work effectively to develop pace with domestic and global markets.
B4	Apply design solutions to design problems that are commensurate with the requirements of society and the environment.
B5	Design visual message to meet the developments of specialisation and professional ethics.

Teaching and Learning Methods

- Studio practice: to train the student on practical skills, computer design to apply creative projects and obtain a device directory.
- Computer laboratories: to encourage students to develop and communicate their design ideas through the computer.
- Workshops: to acquire and develop team-work skills and apply them in defined design projects.
- Field visits: to acquire expertise from the practical and real life and enrich the knowledge of design and art as well as design aesthetics.
- E-learning: through the University website (Moodle).
- Library hours: to follow up and enhance the students' development.

Assessment Methods
- Mid and final exams
- Presentations
- Tests of drawing and colouring different perspectives – free hand (to enhance self-learning)

C	Cognitive (Intellectual) Skills *After completing this programme graduates will be able to:*
C1	Analyse and conclude design problems and provide alternative solutions.
C2	Innovate elements of visual message that are compatible with the design objectives.
C3	Regulate the thinking skills to organise and achieve graphic design projects.
C4	Develop graphic conceptual thinking to the latest printing output quality and marketing.
C5	Tie the design theories with the visual modern concepts as parameters for any design activity.

Teaching and Learning Methods
- Qualify thinking, brainstorming, and analysis of the design theories.
- Thinking and analysis, criticize designs and obtain mental and imaginative experiences.
- Test the conceptual development, criticize the design proposal, assessment, and comparative analysis.
- Workshops: to acquire and develop critical thinking skills that may be applied in certain projects and assignments.
- Field visits: to acquire the imagination skills and creative thinking within the surrounding environment.
- Presentation reviews: to highlight the design proposals and the projects assessments.
- E-learning: through the University website (Moodle).
- Library hours: to follow up and enhance the students' development.

Assessment Methods
- Mid and final exams
- Practical projects, reports and research
- Discussions – group work

D	General and Transferable Skills *After completing this programme graduates will be able to:*
D1	Respond to dialogues, social participation and team work.
D2	Use modern communication techniques to connect with the community and the environment.
D3	Bear responsibility, respect professional ethics and strain of safety factors.
D4	Use their initiatives for continuous self-learning.

Teaching and Learning Methods
- Workshops: to acquire and develop communication, team work and team management skills.
- Field visits: to acquire experience within the real surrounding environment and respond to the requirements of the labour market.
- Presentation and display methods: to present the design proposals and evaluations for proposed projects.
- Enhance and develop the elements of independency in research, critical analysis, decision-making, planning, self-management, and self-confidence; and to reflect this on work.
- E-learning: through the University website (Moodle).

Assessment Methods
- A report on the field training competence issued by the institution which provided the training.
- Research and reports (to enhance self-learning).
- Presentation and discussions – group work

Mapping between PILOS and CILOS – Bachelor in Graphic Design																					
		Compulsory Modules		Knowledge and Understanding					Subject-Specific Skills					Cognitive (Intellectual) Skills					General and Transferable Skills			
Level	Course Code	Course Title	LO	A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	C1	C2	C3	C4	C5	D1	D2	D3	D4
1	DAD111	Introduction to Drawing	a1																			
			b1							✔												
			c1																			
			d1																			
1	DAD112	Principles of Architectural Drawing	a1			✔																
			b1							✔												
			c1																			
			d1																	✔		
1	DAD121	History of Ancient & Middle Art	a1	✔																		
			b1																			
			c1											✔								
			d1																✔	✔		✔
1	DAD122	History of Islamic Art	a1	✔																		
			a2		✔																	
			b1																			
			c1											✔								
			d1																✔			
1	GRD115	Computer Graphic 1	a1			✔																
			a2			✔																
			b1							✔												
			b2									✔										
			c1											✔								
			c2												✔							
			d1																✔	✔		
1	DAD131	Principles of Form & Design	a1	✔																		
			a2			✔																
			b1																			
			c1							✔				✔								
			d1																✔			
1	GRD114	Drawing & Printing 1	a1			✔																
			b1							✔												
			c1											✔								
			d1																✔			✔
1	DAD123		a1	✔		✔																
		Colour Theory& Techniques	b1							✔												
			c1											✔								
			d1																✔			
2	DAD221	History of Modern & Contemporary Art	a1	✔																		
			b1																			
			c1															✔				
			d1																✔	✔		✔
2	GRD211	Drawing & Printing 2	a1			✔				✔				✔					✔			✔
			b1																			
			c1																			
			d1																			
2	GRD212	Computer Graphic 2	a1			✔																
			b1							✔			✔									
			c1												✔							
			d1																✔	✔		
2	GRD214	Arabic Calligraphy	a1	✔																		
			b1							✔												
			c1											✔								
			d1																			
2	GRD215	Photography	a1			✔																
			b1							✔												
			c1											✔	✔							
			d1																✔	✔		✔
2	GRD233	Typography	a1	✔																		
			b1						✔													
			c1											✔								
			d1																✔	✔		
2	GRD222	History of Graphic Design	a1	✔		✔																
			b1																			
			c1											✔								
			d1																✔	✔		
2	GRD231	Graphic Design 1	a1			✔																
			b1							✔												
			c1												✔							
			d1																✔	✔		
2	GRD232	Graphic Design 2	a1	✔		✔																
			b1						✔				✔									
			c1											✔			✔					
			d1																✔	✔		
3	GRD314	Computer Graphic 3	a1			✔																
			b1							✔		✔										

			c1												✔			✔					
			d1																	✔	✔		
3	GRD312	3D Computer Design	a1			✔																	
			b1							✔													
			c1													✔			✔				
			d1																	✔	✔		
3	GRD331	Illustration 1	a1	✔	✔																		
			b1							✔													
			c1												✔								
			d1													✔				✔	✔		
3	GRD332	Graphic Design 3	a1	✔	✔	✔																	
			b1						✔	✔		✔	✔										
			c1													✔		✔					
			d1																	✔	✔		✔
3	GRD333	Graphic Design 4	a1	✔		✔																	
			b1						✔		✔	✔	✔										
			c1												✔			✔	✔				
			d1																	✔	✔		✔
3	GRD335	Multimedia	a1			✔																	
			b1						✔	✔	✔	✔	✔										
			c1												✔	✔	✔		✔				
			d1																	✔	✔	✔	✔
3	GRD341	Printing Techniques	a1			✔		✔															
			b1										✔										
			c1												✔				✔				
			d1																				✔
3	GRD313	Marketing & Design	a1				✔																
			b1																				
			c1												✔								
			d1																	✔	✔		✔
3	GRD342	Design Management & Specifications	a1					✔															
			b1																				
			c1														✔		✔				
			d1																	✔		✔	
3	GRD343	Internship	a1				✔		✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
			b1																				
			c1																				
			d1																				
4	GRD431	Graphic Design 5	a1		✔	✔		✔															
			b1							✔	✔	✔											
			c1												✔		✔						

			d1																	✔			
4	GRD432	Graduation Project 1	a1					✔															
			b1								✔	✔											
			c1												✔		✔						
			d1																	✔	✔		
4	GRD433	Graduation Project 2	a1	✔	✔	✔	✔	✔															
			b1						✔	✔	✔	✔	✔										
			c1												✔	✔	✔	✔	✔				
			d1																	✔	✔	✔	✔
4	GRD434	Illustration 2	a1	✔		✔																	
			b1						✔	✔	✔												
			c1												✔	✔		✔	✔				
			d1																	✔	✔	✔	✔
4	GRD436	Web Design	a1			✔			✔	✔		✔	✔	✔	✔		✔	✔	✔	✔	✔	✔	✔
			b1																				
			c1																				
			d1																				
4	GRD441	Ethics & Practice of the Profession	a1	✔			✔																
			b1																				
			c1												✔								
			d1																	✔	✔	✔	✔

Electives																					
1	IND113	Perspective	a1			✔															
			b1							✔											
			c1												✔						
			d1																✔		
1	GRD116	Anatomy Art	a1	✔																	
			b1							✔											
			c1												✔						
			d1																✔		
3	GRD336	Outdoor Designs	a1	✔		✔															
			b1						✔	✔		✔	✔								
			c1											✔	✔			✔	✔		
			d1																✔	✔	✔
3	GRD334	Animation Design	a1	✔		✔															
			b1						✔	✔											
			c1											✔	✔			✔	✔		
			d1																✔	✔	✔
3	GRD337	Design Process	a1	✔																	
			b1						✔												
			c1											✔				✔			
			d1																✔	✔	✔
4	GRD435	Calligraphy & Design	a1		✔	✔															
			b1							✔		✔	✔								
			c1											✔	✔			✔			
			d1																✔	✔	

Course Descriptions

DAD121	History of Ancient and Middle Art	Prerequisite: None

The course includes studying the conception and continuous evolution of art and architecture starting from the Stone Age and going through Mesopotamia, Ancient Egypt, Greeks, Romans, Byzantines, then Gothic Era, the Renaissance Era and ending with Baroque and Rococo. Additionally, the course exposes the constant shifts in the arts during these periods.

DAD122	History of Islamic Art	Prerequisite: DAD121

The course covers the history of Islamic arts, its features, characteristics and origins, since the early period of Islam. It continues primarily to identify and discuss successively the main features of art throughout the Umayyad caliphate, Abbasid, Fatimid, Mamluk and Ottoman periods. It elaborates on the influence of that arts in East Asia and the western world. Finally, it analyses and determines the most prominent trends and methods used of each Islamic period, as well as how they affected crafts and fine arts.

DAD221	History of Modern and Contemporary Art	Prerequisite: DAD122

The course covers the most significant art schools, art movements, theories of modern and contemporary art. It illustrates pioneers of the art of photography, sculpture, architecture, applied arts, and the summary of their aesthetic effect on various architectural and design output, as well as their influence on society and the environment.

DAD112	Principles of Architectural Drawing	Prerequisite: None

The course aims to build familiarity between the student and the methods application of architectural drawing. This can be developed through their interest to learn and train, using different technical drawing techniques, as well as using the right tools for drawing appropriate projections for objects relying on architectural methods for illustrating various designs and sketches.

DAD111	Introduction to Drawing	Prerequisite: None

The course teaches the students to identify and familiarise themselves with the tools and materials of drawing and how to use them in addition to the principles of freehand drawing and free perspective. Moreover, it studies shades, shadows and light and how their values are gradually reflected on various objects and materials. In addition, the course develops the craftsmanship of students, especially freehand sketching with a pencil and all other associated techniques, through specified practical applications.

DAD322	Industry and Art	Prerequisite: None

The course familiarises students with the role of art in industries. In addition to that, it explores modern theories in industrial design and the influence of mechanisation and raw materials on the design shape and role; furthermore, its link to the evolution of modern design theories. Also, in the course, practical applications will be done on creating functional or aesthetic exhibits such as light compositions, packaging shapes and stationaries.

DAD323	Artistic Criticism	Prerequisite: DAD221

The course covers the thought process behind art criticism. It studies the mechanism of art criticism, the core theoretical principles and philosophies of criticism ideologies. It also attempts to broaden the artistic vision and thinking process of the students, and reinforce the ability to properly criticize art.

DAD324	Psychology and Sociology Design	Prerequisite: GRD231

The course covers the psychological aspects and their influence on the success of various designs as it heavily reflects on the occupants' or viewers' moods. Mainly, illustrating the major role that designers play in affecting social behaviour of users as well as their routines.

DAD211	Graphic Presentation Techniques	Prerequisite: DAD112

The course covers the methods and tools for illustrating textures and plans required for design. In addition to that, the technologies of displaying them and outputting them for design works. All of which is done through different phases that develop the students' skillsets in that area.

DAD131	Principles of Forms and Design	Prerequisite: None

The course covers the core principles of design, and the elements of design such as the two and three dimensional forms. Moreover, through projects and practical applications, the student will develop a sense for shapes, forms and spaces.

GRD114	Drawing and Printing 1	Prerequisite: DAD111

The course focuses on recognising the basics and techniques of drawing by using dry tools such as coloured pencils, pencils, and colouring methods and techniques to help the student acquire identity and ability of expression through the practical applications of drawing ; nature, landscapes, and samples of models and objects.

GRD211	Drawing and Printing 2	Prerequisite: GRD114

The course includes the expression of artistic composition by using techniques of colours. Students will gain experience and be able to draw ideas according to the topics given with sketches and shades by using pastels and acrylic colours.

GRD115	Computer Graphic 1	Prerequisite: CS104

The course focuses on the main principles of design by using several computer software for digital arts and graphics. It also enables the student to apply art works via using Pit map techniques that are supported by Photoshop, processing of images, adding, mixing, installing, colour separation, and preparing pictures for printing.

GRD212	Computer Graphic 2	Prerequisite: GRD115

The course includes introducing the principles of computer design by using the Vector technique and enables the student to gain designing skills through using Illustrator software, 3D drawings, perspective, colouring, converting images from Bit map to Vector and apply these skills on various designs.

GRD324	Computer Graphic 3	Prerequisite: GRD212

The course includes an introduction to the most important principles and the basics of print directing layout, training on using print directing layout especially In Design, and designing, preparing, splitting pages and columns, inserting images, and editing them through practical projects of designing models of newspapers, magazines and brochures.

GRD214	Arabic Calligraphy	Prerequisite: None

This course is keen on studying the types of Islamic calligraphy and its historic development, training on the rules of writing the Islamic calligraphies and the various traits for Islamic calligraphy and the aesthetic unity which it has, to be utilized in designing and writing the names of companies and promotional phrases.

GRD215	Photography	Prerequisite: None

The course includes studying the camera and its development in terms of the film and sensor, lens, velocity, sensitivity, exposure, colour balance, WB, etc. The course provides the practical experience to the student relevant to various shooting techniques, concepts and applications of photography.

GRD312	3D Computer Design	Prerequisite: GRD212

The course includes the building and developing of student's skills in the use of 3D graphics in order to empower the student to compose, show, and process all 3D graphic designs to cope with contemporary trends that depend on the study of depth and effect on the audience through 3D and reality simulation.

GRD222	History of Graphic Design	Prerequisite: GRD231

The course includes studying the history of graphic design starting from the drawings on the caves' walls passing through the stages of writing, printing and typographic development and the role played by artistic movements,

different schools, technology, arts and experimental and social sciences in developing the concepts of graphic design. Moreover, the development of the publications, logos, company's identity and communication techniques.

DAD123	Colour Theories and Techniques	Prerequisite: None

The course familiarises students with the theories of colours, its properties and origins. It studies the types of colours, their technical application, as well as what they are best suitable from an artistic and design point of view. Furthermore, it studies the social and psychological effect that colours have on humans. Finally, it enables students to employ the best strategies of colour selection for specific design projects.

GRD331	Illustration 1	Prerequisite: GRD211

The course includes the study of principles, concepts, and basic elements of the illustrations as a mean of visual communication and developing the student's skills in illustration techniques and technical terms used through the design of children's stories, novels, and textbooks.

GRD231	Graphic Design 1	Prerequisite: DAD131

The course introduces the basic concepts of design and the types and functions of graphic design. It clarifies the foundations and concepts of visual graphic formats. It allows the students to gain skills of design through simplifying, altering, deleting, and adding to that design, as well as designing backgrounds, wrapping paper and forming letters.

GRD232	Graphic Design 2	Prerequisite: GRD231

The course includes identifying the concepts of logos and symbols and their technical and visual basics, and the concept of visual identity, developing students the skills of designing logos, symbols, event cards, letterheads, and designing signs and symbols for companies and institutions and creating brands of trade mark.

GRD332	Graphic Design 3	Prerequisite: GRD232

The course includes recognizing the art of posters and their artistic and visual basis; developing the student's intellectual and artistic skills to design different types of posters; and focusing on the use of image and typography to upgrade the poster and promote its functional and aesthetic role, and recognizing the art of packaging and packages design using innovative methods.

GRD333	Graphic Design 4	Prerequisite: GRD332

The course includes theoretical and practical study of typographical production design, its technical and visual principles, and exposing the importance of image, typography, prints' execution and implementation, designer's role in designing, executing and producing newspapers, magazines, catalogues, books, encyclopaedias, designing covers, and focusing on luxury advanced technical processing by designing and producing a number of prints in a creative way.

GRD431	Graphic Design 5	Prerequisite: GRD333

The course includes introduction to the different types of advertising campaigns and their functions, and planning. It introduces how to design an integrated advertising campaign for a company or product which includes design of logo, ID, invitation cards, certificates, procures, letterhead, ad posters and design of packaging. The course therefore aims to prepare the student to be equipped with creative thinking skills and confidently enter graduation project work.

GRD432	Graduation Project 1	Prerequisite: GRD333

The course includes the student to conduct research in graphics and publications on a certain graphical subject, and execute an analytical study of similar case studies at local and regional levels. This will enhance students' intellectual and technical skills required to solve graphical design problems to be creatively utilized in the design project of Graduation project 2.

GRD433	Graduation Project 2	Prerequisite: GRD432

The course aims at designing and carrying out an integrated graphics project. Creating design solutions take into account the aesthetic and functional developments through searching for applicable ideas for handling design

problems and defining implementation method in the application field that fulfil market needs. Taking in consideration to find solutions to problems that have been discovered through the analytical part of the research in graduation project 1.

GRD434	Illustrations 2	Prerequisite: GRD331

The course includes developing the student's practical and applied skills and deepening his/her personal style, technical and expressive vision through designing illustrations for a variety of topics such as designing children's stories, novels, encyclopaedias, story board illustrations, identifying diagram art, and execute designs and practical works for commercial buildings.

GRD436	Web Design	Prerequisite: GRD333

The course emphasizes the importance of web page design and web programming languages, development, characteristics, and shows the importance of search simulation, server, setting up keywords, the use of computer software for digital and graphic arts such as Flash, Dream weaver, and its effects in creating and designing web pages, and covers the fundamentals of advertising in the Internet, executing practical projects and exercises to enable the student to develop his/her skills.

GRD233	Typography	Prerequisite: GRD231

The course covers the types of Latin and Arabic fonts and their development, identifying fonts design art, allowing the student to gain the skills of drawing fonts and various optical handling based on the modern optical concepts and producing fonts.

GRD335	Multimedia	Prerequisite: GRD212

The course includes introduction to multimedia systems and applications of audio, image, video, display methods, media storages, presentation designing, audio and video merging, exchange of information, how to benefit from them in the graphic design field, the use of multimedia in web pages design, practical exercises and projects on using and viewing images, drawings, and various treatments.

GRD341	Printing Techniques	Prerequisite: GRD231

This course includes theoretical study and practical application to identify types of traditional and modern printing techniques, and their applications in arts, design, printing on various materials, promotional materials, digital printing, studying paper types and their measurements and printing inks, in addition to practical application on various materials in form as well as printing and design techniques.

GRD313	Marketing and Design	Prerequisite: GRD332

The course includes teaching the art of marketing, promotion, Ad, impact of needs, motives, advertising desire for marketing, organizing advertising message, identifying work mechanisms in advertising companies, role of graphic designer in marketing, role of media and technology in deepening electronic marketing importance and studying impact of advertising on the receiver and surrounding environment.

GRD342	Design Management and Specifications	Prerequisite: GRD341

The course includes studying the relationship management between the design institution, customer, specifications, quality and procedures which the graphic work undergoes from the design to the application, types of graphic works and its specifications which are internationally and locally recognized. It covers methods of management of commercial and newspaper press, security printing press, packaging press and private printing press as well as preparing technical reports, counting of quantities surveying and costs, contracts and specifications.

GRD441	Ethics and Practice of the Profession	Prerequisite: GRD342

The course highlights the most important principles and ethics of graphic design profession and studies the systems, laws, regulations of the profession of a graphic designer in Bahrain or abroad, and the most important administrative, commercial, legal and intellectual property rights, and the relation with employers whether in the designing or printing field.

GRD343	Internship	Prerequisite: 90 Credit Hours

The structure of this course enables the students to gain experience in the work field and apply what they academically learned in practice. This will increase their knowledge and skills necessary to keep up with and future job requirements. Therefore this would positively stimulate working in a culturally diverse environment. Conversely, it would help reflect skills and interest learned from field training experience in the field of study and student life. During this training period, the student is constantly under observation by his academic instructor and assessed by specialised committee.

GRD336	Outdoor Designs	Prerequisite: GRD332

The course contains theoretical and practical study of graphics and advertising designs related to advanced advertisement and functional purposes that have supplementary or basic nature, such as design of shop window and names of large and small companies, advertising holograms and buildings, roads, signs services, permanent and temporary exhibits using a variety of modern materials and implementation of practical and efficient designs for real or virtual projects.

GRD334	Animation Design	Prerequisite: GRD331

This course identifies the basic principles of the animation art and its beginning, and the art of movement and its basics, and the development of animation styles, manually or using computer programmes, and the development of student's skills in sketching design, analysis of movements, hand skills and styles, drawing, colouring, and digital animation.

GRD337	Design Process	Prerequisite: GRD332

This course covers the ways to get to the design through procedures which achieve imaginative jump from existing state to future capabilities. It mainly focuses on developing the methodology to conduct for logic solutions and results by following analytical scientific contexts.

GRD435	Calligraphy and Design	Prerequisite: GRD233

The course identifies how to use the calligraphy in creating the design, gaining the student the skill of design using manual writing and fonts. Students get training to coordinate writing according to the classic and modern methods to gain harmony with the nature and spirit of the design, using the various technical and graphic additions on the letters and using writing as an expressive mean to design the different topics with several techniques that goes in line with its function and goals.

GRD116	Anatomy Art	Prerequisite: DAD111

The course covers the human body scale, mechanics, and practicing drawing the human figure in action and motion. It also covers the human skeleton, bones and muscles, and their effect on the body during movement, the physical differences between human body during the different stages of growth and the physical differences between male's and female's body in order to take advantage of all that when are utilized in various given tasks.

IND113	Perspective	Prerequisite: DAD112

The course covers the study of the basics of geometrical drawing as it gives the designer and the viewer the perspective of the 3rd dimension of shapes and spaces in a geometrical form that allows both the designer and user to review and study design suggestions, through various practical applications.

BACHELOR

IN

COMPUTER SCIENCE

Programme Leader

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Programme Details

Teaching institution	Applied Science University
College	Arts and Science
Department	Computer Science
Programme	Computer Science
Certificate	Bachelor Degree
Study	Full-time
Academic Year	2016/2017
Language of Study	Arabic

Aims of the Programme

1. To produce graduates who have an up to date knowledge and understanding of information and communication technology (ICT) which is relevant to the needs of industry.
2. To ensure graduates have practical experience in the analysis and application of techniques and their associated tools and technologies which are used in the development and analysis of computer-based systems.
3. To ensure graduates continually update their skills and knowledge in a rapidly developing subject area in order to meet their full potential throughout their careers.
4. To develop graduates who are reflective learners and cognisant of the importance of research and critical thinking to identify and pursue an evidence based approach to develop and improve current systems or methods of working, both independently and as part of a team, and to be able to communicate this clearly and effectively to diverse audiences.
5. To foster graduates' personal development in GCC society and contribute positively in a socially responsible and ethical manner and in particular understand the ethical dimensions which impact on the development and use of computer-based systems.

Future Careers

The programme, through its rigorous and industrially-relevant design, will enable graduates to specify, design, implement and analyse computing systems that meet user needs to a high level of integrity. This will enable and prepare graduates for careers in the ever expanding industry of computer business application, whether in software houses or IT departments of organizations or knowledge-mediators of Information Systems.

In particular, the programme will create computer programmers, information systems analysts and designers, information systems managers, computer science researchers and/or educators.

Programme Structure

The bachelor degree in Computer Science requires (135) credit hours, categorised as follows:

- 27 credit hours (University requirements, which are divided into 21 credit hours compulsory, 3 credit hours elective from group 1 and 3 credit hours elective from group 2).

- 21 credit hours (College requirements).
- 87 credit hours (Major requirements, which are divided into 75 credit hours compulsory and 12 credit hours elective).

Minimum Study Period: 3 years
Maximum Study Period: 8 years
Number of Courses: 45 Courses

The courses are set at levels 1, 2, 3 and 4, indicating progressively more advanced studies. A student cannot register in a course unless he/she has passed the pre-requisites of that course. This system of prerequisites ensures that a student taking a particular course has undertaken the necessary preparatory work. The aims and outcomes of each course contribute to the overall aims and outcomes of the programme.

Admissions Criteria

Applicants should normally have one of the following:

1. Certificate of Scientific Secondary School discipline with an average of 60%
2. Transcript for Transferred student from related discipline

In cases where students have graduated from non-scientific secondary school discipline, excluding the Arts which are not allowed to enrol, they have to enrol and pass four remedial courses (0 credit hours each) prior to their registration in the college and/or major courses. The remedial courses are as follows:

1. Introduction to Computer Science (CS051).
2. Introduction to Mathematics and Statistics (MAT099).
3. Introduction to Computer Mathematics (CS020).
4. Principles of Programming (CS011).

All the accepted students have to sit the English Online Placement Test (Oxford English Test). According to the results of the English test, students will be requested to take additional English modules, as follows:

1. Students who score between (0-34) have to take Elementary English (ENG097).
2. Students who score between (35-50) have to take Intermediate English (ENG098).

Study Plan

Year 1 – Semester 1 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
ARB101	Arabic Language	3	0	3	None
CS104	Computer Skills	2	2	3	None
HBH105	History and Civilisation of Bahrain	3	0	3	None
HR106	Human Rights	3	0	3	None
ENG111	Upper-Intermediate English	3	0	3	None
CS121	Discrete Mathematics	3	0	3	None

Year 1 – Semester 2 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
PHY101	Introduction to Physics	3	0	3	None
MAT101	Mathematics	3	0	3	None
CS111	Structured Programming	2	2	3	None
ENG112	Advanced English	3	0	3	ENG111
CS152	Digital Logic	3	0	3	None
MAT201	Mathematics II	3	0	3	MAT101

Year 2 – Semester 1 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
	University Elective			3	
CS201	Communication Skills	3	0	3	ENG111
STA201	Probability and Statistics	3	0	3	None
CS206	Computer Ethics and Social Responsibility	3	0	3	CS104
CS215	Data Structures	2	2	3	CS111
CS251	Microcomputers and Assembly Language	2	2	3	CS152

Year 2 – Semester 2 (15 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
	Major Elective			3	
LFS102	Thinking and Communication Skills Development	3	0	3	None
SRM201	Scientific Research Methods	3	0	3	STA201
CS212	Object-Oriented Programming I	2	2	3	CS111
CS252	Computer Architecture	3	0	3	CS251

Year 3 – Semester 1 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
CS311	Algorithms Design and Analysis	3	0	3	CS215
CS314	Object-Oriented Programming II	2	2	3	CS212
CS335	Information Systems Analysis	2	2	3	CS212
CS351	Operating Systems	3	0	3	CS252

CS371	Computational Theory	3	0	3	CS215
CS385	Web-Based Software Development I	2	2	3	CS212

Year 3 – Semester 2 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
	Major Elective			3	
CS313	Visual Programming	2	2	3	CS212
CS333	Software Engineering I	2	2	3	CS335
CS336	Database Systems	2	2	3	CS335
CS341	Artificial Intelligence	3	0	3	CS311
CS361	Data Communications and Computer Networks	3	0	3	CS351

Year 4 – Semester 1 (18 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
	Major Elective			3	
CS431	Software Engineering II	2	2	3	CS333
CS434	Database Development	1	4	3	CS336
CS462	Ciphering and Computer Security	3	0	3	CS361
CS463	Mobile Computing	2	2	3	CS361
CS471	Compilers Design	3	0	3	CS371

Year 4 – Semester 1 (12 Credit Hours)					
Course Code	Course Title	Lecture	Lab	Credit	Prerequisite
	Major Elective			3	
	University Elective			3	
CS432	Graduation Project	0	6	3	90 credit h.
CS433	Internship	0	0	3	90 credit h.

Levels and Courses

All courses are categorized as compulsory or elective, as follows:

University Requirements (27 credit hours)

University Compulsory (21 credit hours)

Course Code	Course Title	Credit Hours
ARB101	Arabic Language	3
LFS102	Thinking and Communication Skills Development	3
CS104	Computer Skills	3
HBH105	Bahrain Civilisation and History	3
HR106	Human Rights	3
ENG111	Upper-Intermediate English	3
ENG112	Advanced English	3

University Electives (6 credit hours)

Group 1 (3 credit hours)		
Course Code	Course Title	Credit Hours
ISL101	Islamic Culture	3
ISL102	Islamic Ethics	3
ISL103	Islam and Contemporary Issues	3

Group 2 (3 credit hours)		
Course Code	Course Title	Credit Hours
LIB101	Introduction to Library Sciences	3
SOC101	Introduction to Sociology	3
MAN101	Man and Environment	3
SPT101	Special Topics	3
CS205	Computer Applications	3

Remedial Courses

Course Code	Course Title	Credit Hours
CS011	Principles of Programming	0
CS020	Introduction to Computer Mathematics	0
CS051	Introduction to Computer Science	0
ENG097	Elementary English	0
ENG098	Intermediate English	0
MAT099	Introduction to Mathematics and Statistics	0

College Requirements

Compulsory (21 credit hours)

Course Code	Course Title	Credit Hours	Prerequisite
MAT101	Mathematics	3	None
PHY101	Introduction to Physics	3	None
CS111	Structured Programming	3	None
CS121	Discrete Mathematics	3	None
CS152	Communication Skills	3	ENG111
CS206	Computer Ethics and Social Responsibility	3	CS104

Major Compulsory (75 credit hours)

Course Code	Course Title	Credit Hours	Prerequisite
MAT201	Mathematics II	3	MAT101
STA201	Probability and Statistics	3	None
SRM201	Scientific Research Methods	3	STA201
CS212	Object-Oriented Programming I	3	CS111
CS215	Data Structures	3	CS111
CS251	Microcomputers and Assembly Languages	3	CS152
CS252	Computer Architecture	3	CS251

CS311	Algorithms Design and Analysis	3	CS215
CS313	Visual Programming	3	CS212
CS314	Object-Oriented Programming II	3	CS212
CS333	Software Engineering I	3	CS335
CS335	Information Systems Analysis	3	CS212
CS336	Database Systems	3	CS335
CS341	Artificial Intelligence	3	CS311
CS351	Operating Systems	3	CS252
CS361	Data Communication and Computer Networks	3	CS351
CS371	Computational Theory	3	CS215
CS385	Web-Based Software Development I	3	CS212
CS431	Software Engineering II	3	CS333
CS432	Graduation Project	3	90 credit h.
CS433	Internship	3	90 credit h.
CS434	Database Development	3	CS336
CS462	Ciphering and Computer Security	3	CS361
CS463	Mobile Computing	3	CS361
CS471	Compilers Design	3	CS371

Major Electives (12 credit hours)

Course Code	Course Title	Credit Hours	Prerequisite
MAT202	Linear Algebra	3	MAT201
CS253	Systems Software	3	CS251
OR301	Operations Research	3	STA201
CS342	Data Mining	3	CS336
CS345	Neural Networks and Genetic Algorithms	3	CS311
CS383	Multimedia Systems	3	CS385
CS384	Special Topics in Computer Science	3	Dept. Approval
CS386	Web-Based Software Development II	3	CS385
CS481	Computer Graphic Algorithms	3	CS311
CS482	Image Processing	3	CS481

Programme Intended Learning Outcomes (PILOs)

A	Knowledge and Understanding *After completing this programme graduates will be able to:*
A1	Explain the concepts and principles of computing, networking, operating systems, computer and data security, data and system modelling, information flow, systems analysis and design, discrete mathematics, mathematical logic and reasoning, etc.
A2	Identify the programming concepts, methodologies, data structures, algorithms, programming languages and methodologies/techniques for a whole software development life cycle.
A3	Explain how to interrelate the following topics: databases systems, web technologies, artificial intelligence, patterns, verification, logic design, mathematical and statistical models, and algorithms design and analyses.
A4	Recognise the professional ethics and social responsibilities of the practices of computer professionals, including understanding the need for quality, group interactions, leadership and dynamics, IPR and privacy.

Teaching and Learning Methods

- Face-to-face lectures, tutorials, and discussions. In addition, blended learning through VLE.
- Direct students to self-study through the use of textbooks, library and e-library available at ASU.
- Generate debates and dialogues in the classroom on various topics.

Assessment Methods

- A mixture of written exams (mid and final exams) and open and continuous assessments.
- Assignment and presentations.
- Students participation in lectures, drills, quizzes, and tutorial discussions.

B	Subject-Specific Skills *After completing this programme graduates will be able to:*
B1	Design and analyse algorithms, and write, test and implement computer programmes using industry-standard programming languages.
B2	Evaluate computer-based systems in terms of general quality attributes.
B3	Analyse, assess and apply modelling techniques through individual/group projects to develop models of information systems, databases, software architecture and business processes.

Teaching and Learning Methods

- Use of illustrative examples in the lectures.
- Imitate real-world practices during lecture presentations and practice role play to generate debate.
- Use of computer laboratory.

Assessment Methods

- Lab tests
- Final year graduation project
- Written exams
- Case studies and reports
- Problem-solving activities

C	Cognitive (Intellectual) Skills *After completing this programme graduates will be able to:*
C1	Assess and identify a set of solutions to solve a wide range of problems in business and scientific contexts.
C2	Evaluate and justify proposed design solutions for computer-based systems.
C3	Analyse, design and implement data structures, algorithms, and information systems effectively.

Teaching and Learning Methods

- Use modelling methods (i.e. DFD, ERD, USE CASE etc.) for analysis and design solutions to business problems.
- Analyse case studies according to the nature of the offered course.
- Offer students opportunities to present appropriate solutions to a specific problem outlined in the course of study.
- Use brainstorming to discuss several scenarios.
- Use project-based learning and student tutors to promote application of developing competencies.

Assessment Methods

- Written exams (mid and final exams)
- Case studies
- Coursework and assignments
- Discussion group

D	General and Transferable Skills *After completing this programme graduates will be able to:*
D1	Work with a group and communicate effectively with both non-IT professionals and IT professionals at a range of levels.
D2	Select and use a wide range of information technology facilities through integration of acquired skills, to solve problems in science and business context.
D3	Pursue self-learning activities effectively.

Teaching and Learning Methods

- Use of case studies in the areas of specialisation.
- Study of the real field problems and providing reports.
- Engage in class dialogue during lectures.
- Use of small groups (teamwork) with presentation and class discussion.
- Final year project.

Assessment Methods

- Report writing
- Presentation
- Internship
- Group work activities
- Final year project

The Mapping between PLOIs and CLOIs for Compulsory Courses													
		Knowledge and Understanding				Subject Specific Skills			Cognitive (Intellectual) Skills			Transferable Skills	
Course Code	Course Name	A1	A2	A3	A4	B1	B2	B3	C1	C2	C3	D1	D2	D3
MAT101	Mathematics	√				√		√	√			√	√	
CS111	Structured Programming		√			√					√	√		
CS152	Digital Logic	√		√		√			√	√		√		
CS121	Discrete Mathematics	√				√	√	√	√	√				
PHY101	Introduction to Physics	√				√	√		√	√			√	
STA201	Probability & Statistics	√		√		√	√	√	√	√		√		
CS201	Communication Skills	√	√					√	√		√	√		
CS206	Computer Ethics & Social Responsibility				√			√	√					√
CS212	Object Oriented Programming I		√			√			√		√	√	√	
MAT201	Mathematics II	√				√	√	√	√				√	
CS215	Data Structures		√			√			√		√	√	√	
CS251	Microcomputers & Assembly Languages	√	√			√			√		√	√		
CS252	Computer Architecture	√					√	√		√			√	
SRM201	Scientific Research Methods	√		√	√			√	√	√	√	√	√	√
CS336	Database Systems	√		√		√		√	√		√	√	√	
CS314	Object Oriented Programming II		√			√					√	√		

The Mapping between PLOIs and CLOIs for Compulsory Courses														
		Knowledge and Understanding				Subject Specific Skills			Cognitive (Intellectual) Skills			Transferable Skills		
Course Code	Course Name	A1	A2	A3	A4	B1	B2	B3	C1	C2	C3	D1	D2	D3
CS311	Algorithms Design & Analysis	√	√			√	√	√		√	√	√		
CS313	Visual Programming		√			√						√	√	
CS333	Software Engineering I	√	√				√	√	√	√			√	
CS335	Information Systems Analysis	√	√					√	√		√	√		
CS341	Artificial Intelligence		√	√		√		√	√			√		
CS351	Operating Systems	√					√		√	√	√	√	√	
CS361	Data Communications & Comp.	√				√		√	√	√		√		
CS371	Computational Theory	√	√				√				√		√	√
CS385	Web Based Software Development I			√		√		√	√			√	√	
CS434	Database Development	√	√				√	√	√		√	√		
CS463	Mobile Computing	√		√			√	√	√				√	
CS431	Software Engineering II	√		√		√		√	√	√			√	
CS432	Graduation Project		√					√		√			√	√
CS462	Ciphering & Computer Security	√			√	√		√	√	√		√		
CS471	Compilers Design	√	√			√	√				√	√	√	

The Mapping between PLOIs and CLOIs for Elective Courses														
Elective Courses		Knowledge and Understanding				Subject Specific Skills			Cognitive (Intellectual) Skills			Transferable Skills		
Course Code	Course Name	A1	A2	A3	A4	B1	B2	B3	C1	C2	C3	D1	D2	D3
MAT202	Linear Algebra	√		√		√	√	√	√	√				
CS253	Systems Software	√	√			√			√	√	√		√	
OR301	Operations Research	√						√	√		√		√	√
CS342	Data Mining	√			√			√	√	√		√		
CS345	Neural Networks & Genetic	√				√			√			√		
CS386	Web Based Software Development II	√	√					√			√	√	√	
CS383	Multimedia Systems	√		√		√	√	√	√		√	√	√	
CS384	Special Topics In Computer Science		√			√			√	√	√	√		
CS481	Computer Graphic Algorithms	√	√			√			√	√			√	√
CS482	Image Processing	√				√			√	√		√		

Course Descriptions

CS011	Principles of Programming	Prerequisite: None

The course covers problem-solving steps, programming methods evolution, modelling tools (i.e. flowchart, UML activities diagram and algorithms), structured programming methods and constructs (sequence, selection, repetition and recursion), design, design modelling, tracing and testing of UML and algorithms.

CS020	Introduction to Computer Mathematics	Prerequisite: None

The course covers an introduction to numbering systems, set theory, functions, matrices, logic expressions, and graph theory.

CS051	Introduction to Computer Science	Prerequisite: None

The course familiarises students with the computer science terms and methodologies. It defines the components of a computer system in terms of software and hardware. It also gives a brief explanation to several topics such as computer language, computer networking, programming languages, logic gates and computer settings.

MAT099	Introduction to Mathematics and Statistics	Prerequisite: None

The course covers real and integer numbers, basic rules of algebra, exponents, fractions, linear equations, quadratic functions, inequalities, absolute values and sets.

MAT101	Mathematics	Prerequisite: None

The course covers principles of set theory, rules of set theory, distance formula, inequalities, slope and line equations, parallel and perpendicular lines, simultaneous equations, domain and range, exponential functions, matrices, deviation and integration.

PHY101	Introduction to Physics	Prerequisite: None

The course covers Newton's second equation for movement, accelerated motion, forces, movements and pressure. It also discusses energy and power, electric current, and electrons. The course also covers resistance and resistivity, and discussion about Kirchhoff's law.

CS111	Structured Programming	Prerequisite: None

The course covers introduction to computer programming, computer programming methods evolution, problem-solving steps, programme design, flow charts, algorithms, UML, structured programming constructs (i.e. selection, sequencing, repetition and recursion), C++ programming language statements and programme tracing, testing and implementation.

CS121	Discrete Mathematics	Prerequisite: None

The course covers numbering systems, sets and binary operations, operations on sets, functions, introduction to graph theory, diagraph and relations, sequence and series, counting methods and probabilities.

CS152	Digital Logic	Prerequisite: None

The course covers numbering systems, binary system, Boolean algebra, logic expressions, basic logic gates, universal logic gates, combinational logic circuits and sequential logic circuits.

CS201	Communication Skills	Prerequisite: ENG111

The course covers issues related to effective technical communication, how to communicate with potential higher administrators, fellow colleagues, and non-technical customers.

MAT201	Mathematics II	Prerequisite: MAT101

The course covers limits, definitions of limits, properties of limits, one-sided and two-sided limits, Sandwich theorem, and limits involving infinity. It also includes derivatives, definition of a function, differentiability, differentiability, rules for differentiation, velocity and other rates of change, derivatives of trigonometric functions, chain rules. Implicit differentiation, derivatives of inverse trigonometric functions, derivatives of exponential and logarithmic functions,

and application of derivatives, definite integral, definite integral and anti-derivatives, fundamental theorem of calculus, trapezoidal rules, and application of definite integral, integration by parts, differential equations and mathematical modelling, infinite sequences and series are also included.

STA201	Probability and Statistics	Prerequisite: None

The course covers an introduction to concepts, tools, techniques and methods of statistics. It discusses the concepts that are commonly used in business disciplines and act as thresholds for advanced courses of statistics, including data managing techniques, descriptive tools, inferential statistics, and provides an introductory survey of many applications of descriptive and inferential statistics.

SRM201	Scientific Research Methods	Prerequisite: STA201

The course introduces and develops the concepts, organisational structure and deliverables of a research project using qualitative and quantitative methods.

MAT202	Linear Algebra	Prerequisite: MAT201

The course will introduce students to the fundamental concepts of linear algebra culminating in abstract vector spaces and linear transformations. The course starts with systems of linear equations and some basic concepts of the theory of vector spaces in the concrete setting of real linear n-space. The course then goes on to introduce abstract vector spaces over arbitrary fields and linear transformations, matrices, matrix algebra, similarity of matrices, eigenvalues and eigenvectors. The subject material is of vital importance in all fields of mathematics and in science in general.

CS206	Computer Ethics and Social Responsibility	Prerequisite: CS104

The course covers guidelines for proper use of computers and information, copyrights, computer access, computer crimes, data security and privacy, software licensing and protection from viruses and hacking.

CS212	Object-Oriented Programming	Prerequisite: CS104

The course covers object-oriented programming concepts, constructs, and characteristics, ADT, information hiding, constructors, destructors, friend function and friend class, array of objects, manipulating object via its address, inheritance and polymorphism.

CS215	Data Structures	Prerequisite: CS111

The course covers topics in data structures and algorithms such as fundamentals of data structure, Array, Link list, Stack, Queue, Graph, Tree. In addition, students will learn algorithm design, abstract data type, recursion, sorting and searching. At the same time students will practice the variety of data structure types using structured programming.

CS251	Microcomputers and Assembly Languages	Prerequisite: CS152

The course covers microcomputer organisation, microprocessor units, registers (A,PC,IP,BC,DE,HL), data bus, address bus, control bus, I/O ports, 8085 assembly programming instruction: I/O , arithmetic, looping and branching.

CS252	Computer Architecture	Prerequisite: CS251

The course covers concepts of combinational logic circuits, memory hierarchy, Register Transfer Language (RTL), ALU design, design of hardwired CU and micro-programmed CU, and the characteristics of instruction sets.

CS253	Systems Software	Prerequisite: CS251

The course covers introduction to system software, machine structure, assemblers: basic function, machine-dependent and machine-independent, loader and linker, compilers, operating systems, and other systems software.

OR301	Operations Research	Prerequisite: STA201

The course covers the origin of Operation Research (O.R.), its nature, and impact. Overview of O.R. modelling approach; defining, formulating a mathematical model, deriving the solutions and testing the model are described and demonstrated. Linear programming; models, assumptions, formulating and solving linear programming mod-el, graphical LP solution, the simplex method, LP in equation form, iterative nature of the simplex method, transformation model, and the Hungarian method are given in detail. In addition, other models including queuing theory, stock control

models (Inventory) and project management (network models: CPM and PERT techniques) are described. Some applications of these models are given.

CS311	Algorithms Design and Analysis	Prerequisite: CS215

The course introduces students to the principles of algorithm design and analysis. It includes the mathematical principles of algorithms analysis, calculating the algorithm complexity, using the big-O-notation, graph algorithms, and sorting and searching algorithms.

CS313	Visual Programming	Prerequisite: CS212

The course introduces computer programming using the Visual Studio.Net 2013 and visual basic programming language with object-oriented programming principles. Emphasis is on event-driven programming methods, including creating and manipulating objects, classes, and using object-oriented tools.

CS314	Object-Oriented Programming II	Prerequisite: CS212

The course covers advanced designing and implementation of object-oriented based programmes using complex data structures. Data structures implementation is an essential area of study for computer scientists and for anyone who will ever undertake any serious programming tasks. Students will study many advanced programming constructs of the C++/JAVA language oriented for classes and objects. Inheritances types, polymorphism and software reuse will be covered.

CS333	Software Engineering I	Prerequisite: CS335

The course provides a solid base in software engineering (S/E), students will learn principles of S/E, evolving roles of software, software process, software product, process models and advanced models, requirements engineering: gathering, modelling and analysis.

CS335	Information Systems Analysis	Prerequisite: CS212

The course covers introduction to Information Systems, types of systems, integrating technologies for systems, roles for system analysts, SDLC, AGILE approaches and object-oriented analysis, depicting systems graphically, levels of management, project management, feasibility studies, information gathering: interactive methods and unobtrusive methods, agile methodologies and prototyping, modelling with DFD, using data dictionaries to analyse systems, system specification, structured decision, structured English, object-oriented analysis and Unified Modeling Language.

CS336	Database Systems	Prerequisite: CS335

In this course, students are introduced to traditional file structure problems, database systems concepts, database systems evolution, database types, entity, attributes, relationship, and relationship degree, database architecture, database modelling methods, relational algebra, relational calculus and relational database constraints. SQL Data definition and manipulation languages are also covered.

CS341	Artificial Intelligence	Prerequisite: CS311

The course introduces the concepts of artificial intelligence and its applications concentrating on the fundamental principles of intelligent agents, such as their architecture and the way they sense, reason and react in their environment. It covers the following topics: representing world problems as state space, knowledge representation, problem solving utilising search algorithms (i.e. first-depth search), inference using propositional logic and causal models. It also presents the available techniques for reasoning under uncertainty focusing on the probabilistic inference (Bayesian Networks) and its implementation.

CS342	Data Mining	Prerequisite: CS336

The course covers the following topics: the basic concepts of data mining, classification and prediction, data warehouses, multi-dimensional data model, data cleaning, data integration and transformation, data redaction, data mining primitives, languages and system architectures, characterization and comparison, mining association in rules in large databases, categorization of major clustering methods (i.e. density-based, grid-based and model-based

clustering methods, partitioning methods and hierarchal methods), multidimensional analysis and descriptive mining of complex data objects.

CS345	Neural Networks and Genetic Algorithms	Prerequisite: CS311

The course discusses the fundamentals of Neural Network including: basic neuron models (i.e. McCulloch-Pitts model), neural network models (i.e. recurrent network, feedforward network), learning algorithms (i.e. supervised learning) and neural network applications (i.e. patterns recognition). It also gives an introduction to genetic algorithms including the chromosome design, the fitness function and permutation. The implementation of both neural network and genetic algorithms using MATLAB will be covered during the course.

CS351	Operating Systems	Prerequisite: STA252

In this course, students are introduced to the definition and principles of software used to operate computer systems (operating systems, assembly language, loader, linker, compiler, etc.), the advantage of using such systems and the design principles of such software.

CS361	Data Communication and Computer Networks	Prerequisite: CS351

The course covers the following topics: uses of computer networks, network classifications, network software including OSI and TCP/IP reference models (the focus is on TCP/IP layers), transmission media including guided and unguided media, vehicular ad hoc networks and their communication domains, data flow control and error control (i.e. hamming code), packet switching including datagram and virtual circuits, internetwork routing, IPv4 protocol, IP address, subnet, IP address classes, network address translation, user datagram protocol, transmission control protocol, domain name system (DNS), electronic email and the world wide web.

CS371	Computational Theory	Prerequisite: CS215

The course explains to students the finite automata, which is a modelling tool for many important kinds of hardware and software, such as software for designing and checking the behaviour of digital circuits; the “lexical analyzer” of a typical complier, that is, the compiler component that breaks the input text into logical units, such as identifiers, keywords, and punctuation; software for scanning large bodies of text, such as collections of web pages, to find occurrences of words, phrases, or other patterns; software for verifying systems of all types that have a finite number of distinct states, such as communication protocols or protocols for secure exchange of information. Refinement calculus for finite state machine and regular languages is also covered.

CS383	Multimedia Systems	Prerequisite: CS385

The course introduces the theory and fundamentals of multimedia systems. It defines the various types of media such as sound, image, animation and video. It discusses the difference between continuous and discrete media and their transmission relative to time and size. The course also covers various types of image filters speech signals and animation. Computer programmes that deal with managing and enhancing such types of media will be discussed throughout the course.

CS384	Special Topics in Computer Science	Prerequisite: Dept Approval

The course covers the hottest topics and the latest research in the field of Computer Science. The topic might be different from one semester to another. Approval from the computer science department is required to select the course content whenever the course is offered.

CS385	Web-Based Software Development	Prerequisite: CS212

Within the context of web-based software development topics include: creating a web site using html, xml, and CSS. Other topics such as creating tables, page division, inserting animation and multimedia, using/creating templates, managing hosting and its control panel are also covered.

CS386	Web-Based Software Development II	Prerequisite: CS385

The course introduces students to advanced topics in web applications development. Topics include: web applications development, smart devices and web design programming languages (i.e. HTML, CSS, PHP, JavaScript, ASP.NET and

Visual studio.NET), web hosting, file transfer protocol, control panel for local and remote servers, Word Press, and Yii frameworks.

CS431	Software Engineering II	Prerequisite: CS333

Within the context of software engineering, topics include: design concepts, software design models, architectural design, component-level design, designing class-based components, component-level design for web applications, user interface design, web applications interface design, pattern-based design, architectural patterns, web applications design quality, aesthetic design, content design, object-oriented hypermedia design method, quality management, achieving software quality, review techniques, formal technical review, software testing and testing strategies.

CS432	Graduation Project	Prerequisite: 90 Credit Hours

In this course, the student follows a research method to identify a specific problem (define the research question), conducts a literature survey and proposes a solution (an artifact) to the identified problem utilising computer algorithms, software packages and/or hardware devices. This will take place with guidance from a supervisor. At the end of the course, the student will demonstrate the outcome of the investigation (project) and will write a graduation project report.

CS433	Internship	Prerequisite: 90 Credit Hours

The course is designed to provide students with the opportunity to gain experience in a workplace setting and to translate classroom learning into practice. It focuses on reinforcing students' practical and transferrable skills where further industry knowledge and skills necessary for professional advancement are acquired and developed. The course enables students to function well in a culturally diverse working environment. Additionally, it helps students reflect on the skills they are learning and the benefits gained from the internship experience.

CS434	Database Development	Prerequisite: CS336

The course covers the following topics: practicing the database design methodologies such as, normalization, entity relationship diagram (ERD), extended entity relationship diagram (EERD), and Object oriented database design (OODBD). Students will practice the Unified Modeling language (UML), how to carry out design optimization, mapping design model constructs to relations, and schema definition using SQL DDL.

CS462	Ciphering and Computer Security	Prerequisite: CS361

The course provides students with a firm understanding of the major issues of data and computer security. Students will study computer security, threats and ways for protection, ciphering algorithms, public and private keys algorithms, authentication, the network security firewalls and internet security.

CS463	Mobile Computing	Prerequisite: CS361

The course introduces students to the fundamental principles of mobile computing, and its applications and challenges. Topics include: mobile and pervasive computing, wireless communication technologies, mobile computing applications (i.e. location-based systems and context-aware systems) and software engineering principles of mobile computing.

CS471	Compilers Design	Prerequisite: CS371

In this course, students will study compilers design, major problems in interpretation of programming languages, compilation steps, difference between compilers and interpreters, top-down versus bottom-up grammatical analysis, codes generation, and storage allocation strategies.

CS481	Computer Graphic Algorithms	Prerequisite: CS311

The course introduces students to the concepts of computer graphics. It starts with an overview of interactive computer graphics, two dimensional systems and mapping, then it presents the most important drawing algorithm, two-dimensional transformation; clipping, filling and an introduction to 3-D graphics.

CS482	Image Processing	Prerequisite: CS481

The course discusses the fundamental principles of digital image processing including: Fourier transform, discrete Fourier transform, image enhancer algorithms (i.e. smoothing filters, Gaussian filters and Sobel filters). It also covers discontinuity detection, similarity and region detection and using MATLAB to perform image manipulation.

BACHELOR DEGREE BYLAWS

Article (1):

These bylaws are called Bachelor Degree bylaws in the Applied Science University, and are applicable to all University colleges effective from the date of approval. They are applied to enrolled students registered to obtain a Bachelor Degree.

Article (2):

1. The following words and expressions, as indicated in this bylaw, have the meanings allocated below; unless the context signifies otherwise.
   President: President of the Applied Science University
   Council: University Council
   College Dean: Dean of the College to which the student belongs
   Study System: Credit Hours System

2. Credit Hours System:
   The system of study is based on:
   a. Number of credit hours that should be completed by the student and passed according to the level determined by the University as a condition for graduation in any academic programme.
   b. Identification of academic fields in which such credit hours are distributed as per the provisions of this bylaw giving the student the freedom to select required courses based on his needs and readiness with the guidance from his academic advisor and within the range of minimum and maximum credit hours allowed per semester and according to the advising plan.

3. Credit Hours (Cr.):
   Includes one theoretical hour of study per week or its equivalence in practical hours, within the full academic semester.

4. University Year:
   The university year consists of two obligatory semesters and one optional summer semester.

5. Semester:
   The duration of each semester is at least 14 weeks, including the examination period, and the duration of the summer semester is at least seven weeks, including the examination period. The University Council is entitled to change this duration as per public interest as viewed by the University Council, in a way that does not conflict with the bylaws and laws issued by the Higher Education Council.

6. University Requirements:
   A set of compulsory and elective courses studied by all students in the University according to their approved plan of study.

7. College Requirements:
   A set of compulsory and elective courses studied by all students in the College according to their approved plan of study.

8. Programme:
   The total credit hours required to be studied by the student to obtain a Bachelor Degree in a certain specialty.

9. Programme Requirements:
   A set of compulsory and elective courses studied by all students in the programme according to their approved plan of study.

10. Academic Level:

The academic level of the student is determined by the number of hours the student has passed successfully by virtue of the study plan.

11. Elective Courses:
    These are a set of courses from which the student is entitled to select, as included in the elective courses list, and according to the approved plan of study in the University.

12. Compulsory Courses:
    A group of courses that the student must complete as part of their approved study plan in the University.

13. Prerequisite:
    An academic course that must be successfully completed by the student before enrolling in the more advanced course, according to the provisions of Article 8/2.

14. Study Load:
    The number of credit hours registered by the student during the semester.

15. Study Plan:
    i. This specifies the total number of credit hours distributed accordingly throughout
    ii. The study period in order to obtain a Bachelor Degree.

16. Punctuality:
    Attendance of lectures, discussions, and practical classes defined for each course in the study plan.

17. The Academic Advisor:
    A faculty staff member who helps the student register the required courses after referring to their academic transcript and the study plan provisions, as well as the university bylaws, depending on the student's abilities and academic progress in the University.

18. Course Grade:
    The total marks from the final exam, mid-term exam and classroom work, excluding courses that are on a (Pass) or (Fail) basis.

19. Semester Average:
    The average of courses grades studied by the student in one semester, calculated to the nearest decimal points.

20. Grade Point Average (GPA):
    The accumulative average of all the courses completed by the student, successfully or otherwise, as set in their study plan until the date at which the average is calculated. Courses that are not within the student's study plan are not included in the calculation of the GPA and are calculated to the nearest two decimal places.

21. Minimum Pass Mark:
    The Minimum Pass Mark in the course is 50%, and the minimum final mark is 35% (University Zero Mark). This should take into account the fact that the mark should be a single overall integer mark.

22. Transcript:
    A copy of the student's academic report, which the student receives at the end of each semester, indicating the number of credit hours studied, mark for each course, semester average and Grade Point Average (GPA).

23. Withdrawal:

    1. Withdrawal from the course (W)

This refers to the student's withdrawal from the academic course within the specified period.

2. Emergency Withdrawal (WE)
   This refers to the student's emergency withdrawal from all courses after the specified withdrawal period for compelling reasons, such as ill health, personal injury, or the death of a first or second degree relative.

3. Forced Withdrawal (WF)
   This refers to the student's withdrawal from the registered courses in a certain semester in cases in which he has exceeded the permitted absenteeism percentage without providing an official excuse.

4. Automated Withdrawal (WA)
   This refers to the student's withdrawal from the registered courses in a certain semester in cases which they have not attended any of the lectures of the course during the semester.

24. Academic Warning:
    A formal warning given to the student in cases where he has a low GPA.

Article (3):

The University Council declares the study plan that leads to obtaining of a Bachelor Degree in the specialties provided by the University Department, based on the recommendation of Councils of Colleges and competent Academic Departments, as well as proposals from the competent committees, so that the credit hours required for obtaining degrees are as follows:

I. College of Administrative Sciences:

1.	Bachelor in Accounting	135 Credit Hours
2.	Bachelor in Business Administration	135 Credit Hours
3.	Bachelor in Accounting and Finance	135 Credit Hours
4.	Bachelor in Management Information Systems	135 Credit Hours
5.	Bachelor in Political Science	135 Credit Hours

II. College of Law

1.	Bachelor in Law	135 Credit Hours

III. College of Arts and Sciences

1.	Bachelor in Computer Science	135 Credit Hours
2.	Bachelor in Graphic Design	139 Credit Hours
3.	Bachelor in Interior Design	138 Credit Hours

Article (4) Study Plan:

The study plan in each Bachelor Degree programme includes the following courses.

1. University requirements:
   Number of credit hours needed to meet the University's requirements is 27 Cr., divided as follows:

   a. University Compulsory Requirements: (21) Credit Hours:

Course no.	Course Name	Credit Hours
ARB101	Arabic Language	3
ENG101	English Language (1)	3
ENG102	English Language (2)	3
CS104	Computer Skills	3
HBH105	Bahrain Civilization and History	3
LFS102	Thinking & Communications Skills Development	3
HR106	Human Rights	3

   a. University Elective Requirements: (6) Credit Hours:
   One course is to be selected from the first group (3 credit hours) and one course from the second group (3 credit hours).

Group	Course no.	Course Name	Credit Hours
First Group	ISL 101	Islamic Culture	3
	ISL 103	Islam and Contemporary Issues	3
	ISL 102	Islamic Ethics	3
Second Group	SOC 101	Introduction to Sociology	3
	MAN 101	Man and Environment	3
	LIB 101	Introduction to Library Science	3
	SPT 101	Special Topics	3
	CS 205	Computer Applications	3

   b. Other courses may be added, and some of the courses mentioned above may be cancelled by a resolution of the University Council. The council forms a committee for each course, or a number of the required courses. These committees set the courses' curriculum according to the council's guidelines.

2. College Requirements:
   The requirements of the College consist of the set of credit hours declared by the University Council, upon a recommendation from the College Council, as follows:

Colleges	Credit Hours
College of Administrative Sciences	27
College of Arts and Science	21 – 27
College of Law	21

3. Requirements of the programme and Supporting Courses:
   The number of credit hours required is approved by the University Council upon a recommendation from the councils of colleges. These credit hours are distributed between compulsory and elective courses, as well as applied education and internships.

Article (5) Admission Requirements and Placement tests for new students:

1. University Admission requirements:
   a. The student should obtain a Secondary School Certificate or its equivalent certified by the Ministry of Education in the Kingdom of Bahrain with an average of no less than 60% or equivalent.
   b. Students with averages below 60% may be admitted in the University, provided that they meet one of the following criteria:
      1. They are athletes and artists who represent the Kingdom of Bahrain internationally.
      2. Those with at least one year of practical experience following their secondary school certificate.
      3. In addition to that, the University Council has the right to decide on applicants with averages below 60%.
      4. The number of students admitted according to this point (B) can be no more than 5% of the admitted students.
   c. In some programmes, the students admitted from non-scientific secondary school fields should pass remedial courses.
2. All students admitted to the University should take a compulsory placement test –determined by the University- to determine their English language level. The levels admitted to the programmes are determined as follows, so that the admitted student studies the course listed according to their own ability level:
   a. Programmes taught in English according to the following table:

Course	Level	Mark in the placement test
ENG 097	Elementary	0 - 34
ENG 098	Intermediate	35 - 50
ENG 111	Upper-Intermediate	51 - 120

   b. Programmes taught in Arabic according to the following table:

Course	Level	Mark in the placement test
ENG 099	Remedial course	0 - 40
ENG 101	English 101	41 - 120

3. A student may be exempted from studying the English language courses in the following cases:
   - The student is exempted from the courses ENG 097 and ENG 098 for programmes taught in English, and the course ENG 099 for programmes taught in Arabic if they have obtained (5) or higher in an IELTS test, or 450 and higher in a TOEFL test.
   - The English language placement test is conducted in the semester in which the student is admitted. If the student does not attend the test, they will be given a mark of 0, and will not be allowed to postpone the test for any reason or under any circumstances.
   - Students transferred from other universities will be exempted from the English language placement test if they have taken an equivalent English course in their previous university.

Article (6) Credit Hours:

1. Each course consists of three credit hours, excluding some courses that have practical requirements (for example, laboratory work), in which case, the number of credit hours for a course may reach five hours. The University Council may assign fewer or more hours for some courses, if required.
2. The credit hours for each course are assigned on the basis that one hour of theoretical weekly lecture equals one credit hour. In the case of laboratory or practical hours, the assessment is made separately for each course, where one credit hour constitutes no less than two practical hours or two laboratory hours.

Article (7) Levels of Study:

1. The courses offered by each programme as well as the courses included in the study plans are classified into four levels, stating any prerequisites (if any) for each course. Each course is assigned a code that indicates its level. Moreover, every course must identify the number of lectures, weekly laboratory hours, and number of credit hours.
2. The students registered at the University under the Bachelor Degree are classified into four levels: first year, second year, third year, and fourth year, according to the number of credit hours they completed. It should be the case that a second year student has completed 33 credit hours, whereas a third year student will have completed 66 credit hours, and a fourth year student will have completed 99 credit hours.

Article (8) Prerequisites:

1. The student is not allowed to study a course before studying its prerequisite courses.
2. The student is allowed to study a certain course and its prerequisite in the same semester if their graduation so requires, or if they have previously failed the prerequisite. This happens with the consent of the Dean of the College and with a recommendation from the Head of the Department and the academic advisor, provided that the student does not have more than one prerequisite to complete or to pass.
3. The meaning of studying a prerequisite which is mentioned in paragraphs 1 and 2 of this article: -the student should have registered, attended and taken the exams of the prerequisite irrespective of passing or failing it, provided that his grade is not less than 36%.

Article (9) Duration of Study:

1. The study duration to obtain a Bachelor Degree in any programme with a regular study load is four academic years.
2. Students are not allowed to obtain a Bachelor Degree in a period of less than three years.
3. The study duration to obtain the Bachelor Degree should not exceed eight academic years in all programmes.

Article (10) Study Load:

The minimum number of credit hours a student may register for is 12 credit hours per semester, and the maximum is 19 credit hours per semester. A student is allowed to register less than 12 credit hours only once during his studies. Moreover, he is allowed to register less than the aforementioned minimum number of credit hours more than once on condition that he is considered a part-time student and that it should not count towards the minimum period of obtaining the degree. A student is allowed to register for extra credit hours, provided that these hours do not exceed 21 credit hours, and the following conditions are met:

- His GPA is not less than 84%.
- The student needs to study 21 credit hours to complete the requirements of graduation during that semester.

Article (11):

In the graduation semester, the student may register any number of credit hours required for graduation, without considering the minimum level of the prescribed study load.

Article (12) Punctuality:

All registered students must regularly attend all lectures and actively participate in all classroom discussions. Furthermore, the course instructor keeps a record of the students' absence and attendance in the Students Information System.

Article (13) Absence and Excuses:

1. The student is not allowed to be absent for more than 25% of the course credit hours.
2. The course instructor submits the names of those students whose absenteeism exceeds 15% of the total hours of the course to the Head of the Department in order to take the necessary action.
3. If the student is absent for more than 25% of the total course credit hours without a reasonable excuse that is accepted by the College Dean, they will not be allowed to attend their final exam and will be given the minimum pass mark, i.e. (WF, 35). The student will then have to retake the course, if it is compulsory. In all cases, the grade will be included in the calculation of the student's accumulative and semester average for warning or dismissal purposes.
4. The Head of the Department submits to the College Dean a list of those students who are prohibited from taking the final examinations due to their absenteeism, to inform the Deanship of Admission and Registration to assign to those students the minimum grade for that course.

Article (14) Absence:

1. If the student is absent for more than 25% of the course hours due to illness or any reasonable excuse that is accepted by the College Dean, they will be considered as withdrawn from the course with a grade of (W), and the rules of withdrawal will apply. Students who represent the Kingdom or the University in social activities shall be permitted to be absent for no more than 30% of the total course hours.
2. It is necessary that sick leave be issued by an approved medical authority and a certificate be submitted to the Dean of College within a period of two weeks from the date of the absence.

Article (15) Examinations:

1. Any student absent from the final exam without an excuse that is accepted by the College Dean will be given a mark of zero.
2. The maximum number of (stamped) sick leave for out-patient students is five days if approved within two working days, whereas for in-patient students, approval must be sought within four working days from the period of absence.
3. If the student misses the final exam with a reasonable excuse that is accepted by the Dean of the College, the Dean is responsible for informing the Deanship of Admission and Registration of the need to assign a grade of "incomplete", where the course instructor will schedule a make-up exam within the first 2 weeks of the next semester. If this does not happen, the students' will not be able to retake the exam.
4. It is possible to consider the student who has missed the final examination with an acceptable excuse as withdrawn from the course, provided that he successfully passed the Mid-Term exam and the coursework, and are not registered for the make-up exam during the period determined in Paragraph 3 above, and that the student did not miss a make-up exam scheduled by the department without providing an acceptable excuse to the Dean.

Article (16) Course Description:

Faculty staff members prepare descriptions of their courses, which include the nature of the course, its objectives and timetable, the course requirements, exams and assessment dates, mark distribution, reading and references lists. These will be approved by the Department Council.

Article (17) Marks:

1. The final mark for each course is the sum of the final exam mark and the coursework mark.
2. The coursework includes the following:
    - Oral and written quizzes, reports, research, group discussions, presentations and class participation, and counts for 20% of the overall course mark.
    - A mid-term written exam which counts for 30%.

3. The final exam for each course is held at the end of the semester and counts for 50% of the overall mark. The final exam is a written exam that covers the course material and may include oral or practical tests or a submitted report and the College Council determines, based on a recommendation from the concerned Department, its percentage from the final exam mark. This has to be announced to the student at the beginning of the semester.
4. The distribution of the marks for practical courses, or those which have a practical element, are determined by the College Council based on recommendations by the Department Council.
5. The Final exam, Mid-term exam grades and coursework may be re-distributed if recommended by the Department Council and the College Council and given an approval from the University Council.
6. The marks are calculated and recorded for each course using percentages, and the credit hours of the course should be clearly stated.
7. The final grade for each course is calculated from 100 to the nearest whole number.

Article (18) Examination Questions:

The exam questions should be confidential and each faculty staff member setting them should coordinate with his Head of Department and College Dean. The faculty staff member should take full responsibility for the supervision, printing, copying, packing, and maintaining of the exam papers.

Article (19):

The course instructor is responsible for keeping a record of students' attendance of the exam, and the marking of papers.

Article (20):

The course instructor is responsible for accurately recording the students' marks in the Students Information System.

Article (21):

1. Mark Classifications are as follows:

Mark	Grade	Symbol in English
90 - 100%	Excellent	A
80 - 89%	Very Good	B
70 - 79%	Good	C
60 - 69%	Pass	D
50 - 59%	Poor	E
Below 50%	Fail	F

2. The Accumulative Averages are classified as follows:

Mark	Grade
92- 100%	Excellent with Honours
84 - less than 92%	Excellent
76 - less than 84%	Very Good
68 - less than 76%	Good
60 - less than 68%	Satisfactory

Article (22) Calculation of Semester and GPA Averages:

1. The calculation of any semester or GPA averages is done by multiplying the percentage for each course by the number of credit hours for each course divided by the total number of credit hours.
2. In cases where the student has failed, their mark will be recorded by the course instructor as 35%, including all marks that fall below 35%.
3. All courses completed by the student are documented in their academic transcript.

Article (23) Appeals:

1. Students have the right to appeal against their final examination mark for any course within ten days of the results being announced. The Dean is then entitled to investigate whether any mistakes were made in the calculating or recording of marks or unmarked marks. This is done by a committee formed by the College Dean, consisting of faculty members but not including the course instructor.
2. The student pays 10 Dinars for each appeal request.
3. The student has to right to appeal against his final mark for any course using the following steps:
    a. The student submits an appeal request to the Deanship of Admission and Registration within 10 days of the results announcement. The student then pays 10 Bahraini dinars - to be refunded if the mark is subsequently augmented.
    b. The Head of the Academic Department forms a special committee that consists of two faculty members to review the coursework results and re-mark the final exam paper; provided that the student's course instructor is not a member of the committee. If the committee cannot agree on the same result, it will be transferred to a third member to make the final decision.
    c. The committee depends on the mark distribution that was provided by the course instructor.
    d. The committee submits its report to the Head of the Academic Department within one week of its formation.
    e. If the mark is changed following the committee report, it will be approved by the concerned Head of Department and College Dean. The report will then be delivered to the Deanship of Admission and Registration to amend the mark prior to end of the Add/Drop period of the coming semester.
    f. The Deanship of Admission and Registration notifies the student of the result.
    g. The student is not allowed to request an appeal on a course that was already reviewed. The first appeal's decision will be considered as a final decision.

Article (24) Adding or Dropping Courses:

1. The student is allowed to withdraw from courses in which they are registered and add new courses within five working days of the beginning of the first and second semesters, and within three working days of the beginning of the summer semester. The courses dropped within those periods will not be included in the student's academic transcript.
2. Given the content of Clause (1) of this Article, the student is allowed to withdraw from a course within eight weeks of the beginning of the first and second semesters, and within four weeks of the beginning of the summer semester, provided that the student has not exceeded the percentage of the allowed absenteeism rate. The dropped course in this case would be included in the student's academic transcript with a note of 'withdrawn-W', and this course would not be included in the total credit hours they have studied in terms of passing, failing or graduation requirement. If the student has dropped the course after the mentioned period, the faculty member should include the student's result in his academic transcript. The withdrawal process should not decrease the number of credit hours registered by the student in terms of the minimum study load allowed according to these instructions, except in some compelling circumstances mentioned in these instructions.

Article (25) Withdrawal from and completion of courses:

1. In cases where the student has withdrawn from a course, the note 'W withdrawn' will appear next to the course on his academic transcript.
2. The note 'incomplete' will appear next to the course if the student does not complete the requirements, or misses the final exam with an acceptable excuse.
3. If the student obtains the result of 'incomplete' in some courses, their averages will be calculated when the marks of the courses are complete. The averages are considered retroactively from the date of the student having obtained the 'incomplete' result, when it comes to academic warning or dismissal.

Article (26) Honorary Board:

1. Each semester The President issues the names of students listed in the honorary board of the University. This includes names of students who have obtained semester averages of 92% and above, and the University honours them in a way that it deems appropriate.
2. The Dean places the names of the students who have obtained semester averages of 85% and above on the honorary board of the College, and notes this in their academic transcript, provided their load of study is no less than 12 credit hours.
3. The bylaws of the Honorary Board of the Excellent Students in the Applied Science University are applied to the students listed in the above Clauses 1 and 2.

Article (27) Academic Warning (placing the student under probation and dismissal):

1. The student is given a warning if his GPA is below 60% at the end of each semester, excluding his first semester at the University and the summer semesters. The Deanship of Admission and Registration notifies the student via the method it deems appropriate.
2. Students under probation should resolve the issues that have caused them to be put under probation within a maximum period of two regular semesters.
3. If the student cannot resolve the issues, by virtue of Clause (2) of this bylaw, they will be dismissed from the academic programme.
4. A student who has completed 75% of the required credit hours will not be dismissed. The student obtaining a GPA of between 59.5% - 59.9% will also be excluded from dismissal.
5. Every student who exceeds the maximum permitted study duration in the university will be dismissed.

Article (28) Dismissal from Study:

1. Any student obtaining a GPA of less than 50% in any semester other than their first semester at the University, will be dismissed from the programme. This is applied after completing no less than 12 credit hours.
2. Any student dismissed from his programme and rejected by all other academic departments at the University will be dismissed from the University.
3. A student is not permitted to register and study in a programme from which he has previously been dismissed.
4. The student that is subject to an academic warning is not allowed to register for more than 12 credit hours in the semester, except with a recommendation from the Academic Advisor and Head of Department.
5. The student that is given an academic warning is not allowed to participate in any extra-curricular activities held at the University.

Article (29) Re-taking the Course:

1. Student must re-take any of the compulsory courses that he has failed. If a student fails an elective course, he is allowed to study another course according to the study plan. The student is also allowed to re-take any course in which they have obtained a mark below 65%, in order to raise his GPA. In all of the cases indicated, the higher mark will be calculated for the student and the lower mark will be ignored.
2. In cases where the student re-takes a course due to an earlier failure or for any other reason, the credit hours of this course will be calculated only once within the number of hours required for graduation.
3. If the student completes more courses than the required elective courses in their study plan, the courses with the highest grades will be included in the calculation of their accumulative average, taking into account Paragraphs (1) and (2) of this article.

Article (30) Postponement of Study, Drop-out and Withdrawal from the University:

1. The student is entitled to submit a postponement request prior to the commencement of the semester and provide reasons to convince the concerned body, according to the following criteria:
    - College Dean: if the postponement required is for a period of one semester and does not exceed four semesters, whether continuous or not.
    - College Council: if the postponement required is for a period exceeding four semesters, and for no more than six semesters, whether continuous or not.
2. A newly admitted or transferred student is not allowed to postpone a semester unless he has already completed one semester at the University (the credit hours of the foundation courses are excluded).
3. The period of the postponement is included in the maximum study duration specified for obtaining the Bachelor Degree.

Article (31) Attendance / Re-registration / Absence and Withdrawal from Courses:

1. If the full-time student is not registered at the University for one or more semesters, and does not obtain written consent from the College Dean for the postponement of his study for this period, his admission will be cancelled.
2. The University Council may re-register the enrolled student if he presents a reasonable excuse that is approved by the Council. After approval, the student may retain their entire previous academic transcript, provided that the postponement period is not more than four academic years and that they will be able to meet the graduation requirements within the permitted period.
3. The University Council, based on the recommendations of the College Council and the Deanship of Admission and Registration, will determine the study plan for the re-registered student.
4. The student, whose total excused absences exceed (25%) of the credit hours for semester courses, is considered withdrawn from the semester and the note 'Withdrawn W' will appear on their transcript. This semester will be considered postponed.
5. The student may submit a request to the College Dean to withdraw from all courses registered in a specific semester. If approval from the Dean is obtained, that semester will be considered postponed, and the student should submit such a request at least four weeks prior to the date of the final exams.

Article (32) Transfer from One Academic Programme to Another:

1. The student may transfer from one programme to another in the University, if there is a suitable vacancy, provided that his secondary school GPA qualifies him to study in such a programme.
2. When the student is transferred to another programme, he may be exempted from any courses of his choice that he completed in the previous programme if they are included in the study plan of the new programme. The marks of such courses are included in the student's semester and GPA average.
3. Each 15-credit-hour course selected, as per the previous clause, is calculated as one semester.
4. Transfer requests will be submitted to the Dean of Admission and Registration using the prescribed forms.
5. The transferred student receives the same treatment as the new student, for the purposes of postponement, warnings, and dismissal from the programme.

Article (33) Visiting Students:

1. The visiting student is enrolled in his original university, but is a temporary student at the Applied Science University and is allowed to study specific courses in a certain semester. After the end of this semester, the University is not obligated to admit or transfer this student to any academic programme.

   The conditions for dealing with the visiting student are as follows:
   - The student should be a full-time enrolled student in a university
   - The visiting student should be studying at a recognised university as per the laws and bylaws of the Higher Education Council in Bahrain.
   - The student should be nominated by his original university to study specific courses, and at the end of the semester, his results will be sent to the responsible body in his original university.
   - A vacancy must be available in the courses that the visiting student is applying for.
   - Visiting students are registered after the period of registration and add/drop, and only in those courses that have available seats.

2. Students desiring to study as visiting students in another university, recognised by the national committee for the equalization of certificates by the Ministry of Education of the Kingdom of Bahrain, should obtain prior consent from the Deanship of Admission and Registration in the University with the subjects to be studied based on recommendations from the relevant academic department. This consent requires a submission of study request in the other university supported by the following documents:
   - Description of the contents of the course to be studied as approved by the relevant body in the external university, to be submitted to the academic department concerned as per the controls declared by the University Council.
   - A letter obtained from the Dean of Admission and Registration in the University addressed to the relevant body in the host University.
   - The courses studied by the university student appear as “Pass” if the student has obtained a mark of no less than 70%.

Article (34):

If the student has already obtained a Bachelor Degree from the university and college that they are applying to, in another programme, the university may exempt the student from all requirements of the university and college. The student will only be required to complete the new programme requirements. If the new programme is in another college within the same university, the student may be exempt from the university requirements.

Article (35) Transfer from Other Universities:

Students may transfer to the University if there are vacancies available, provided that transfer requests are submitted to the Deanship of Admission and Registration on the dates announced in each semester, and according to the following conditions:

1. Meeting the requirements of the admission and registration of the University. In addition, the student must have an acceptable secondary school average or its equivalent for the programme to which he is transferred.
2. The student must be transferring from an accredited university, college, or higher education institute that is approved by the Equivalence Committee at the Ministry of Education in the Kingdom of Bahrain. The courses completed by the transfer student will be included in their study plan, provided that the credit hours accumulated from their previous university are no less than the credit hours of their new course in the Applied Science University.
3. They are a full-time student, and evidence of this is provided.
4. The student is not dismissed for disciplinary purposes from their previous university directly before submitting the transfer request.

5. Every 15 credit hours completed by the transfer student is equal to one semester, provided that the course marks are not calculated in the semester and GPA averages.

Article (36) Re-enrolling the university

1. If a student that has withdrawn from the University desires to re-enrol, a new application should be submitted. In cases where they are applying for the same programme, their academic transcript should be fully kept, provided they complete the graduation requirements as per the study plan applicable upon their return to the University. The previous study period will be calculated within the maximum graduation period. If they are admitted to another department, the provisions of the clause regarding transferring from one programme to another will apply, provided the duration of study in addition to the withdrawal period does not exceed the maximum permitted graduation period.
2. The student academic transcript will not be considered if the student postpones his study for four or more years.
3. In all cases, the student should study at least 1/3 credit hours with the Applied Science University.

Article (37) Requirements to obtain a Bachelor Degree:

The Bachelor Degree is granted to students by the University Council after completion of the following:

1. Successfully passing all courses required for graduation in the study plan
2. Obtaining a GPA of no less than 60%
3. Spending the minimum duration required for graduation and not exceeding the maximum duration, as indicated in Article (9) of this bylaw

Article (38) Course Equivalence:

The conditions for transferring courses in cases where a student has transferred from a Higher Education Institution to the Applied Science University:

1. The number of credit hours transferred should not exceed 66% (2/3rds) of the Bachelor Degree requirements, where the minimum study duration for a transferred student is two academic semesters and a minimum of 30 credit hours. Courses with a grade less than C are not transferred.
2. The number of credit hours required in order to be transferred cannot be less than the number of the credit hours of the equivalent course.
3. The course is equivalent to only one course.
4. An official and approved academic transcript is required to verify the student's successful completion of the course.

Article (39) Issuing the Graduation Certificate:

The graduation certificates are awarded upon the completion of the requirements at the end of each semester.

Article (40):

1. In cases where the student's graduation is dependent on one or two compulsory courses that are not listed in the semester schedule, or whose timing clashes with another compulsory course, or where the student has failed in the same course twice, the Dean of the College, in consultation with the Head of Department, may allow the student to enroll in an alternative course(s) that is (are) equivalent to the original one(s). The Deanship of Admission and Registration should be notified accordingly.
2. If the student's graduation depends on one or two elective courses, and the student could not register them for a reason beyond his control, the Dean is entitled to approve the replacement of these courses with other appropriate courses of matching levels from the same or other college upon a recommendation from the concerned Head of Department. The Deanship of Admission and Registration should be notified.
3. In all cases, whether the matter is related to compulsory and/or elective subjects, the number of alternative courses should be no more than two courses.

4. If the student did not register for a compulsory or elective course because it was not offered or because it clashed with another course, they are allowed to register for an equivalent course upon the recommendation of the Head of Department and the approval of the Dean.

Article (41):

1. The Head of Department and the Academic Advisor are responsible for following up the academic status of the students in co-ordination with the Deanship of Admission and Registration, and to examine their fulfilment of the graduation requirements.
2. Any student who is expected to graduate at the end of any semester must fill out a graduation form with their department a semester before their graduating semester. This happens in coordination with the Deanship of Admission and Registration in order to avoid any unexpected mistakes.

Article (42):

The student must obtain a No Liability certificate from the University in order to complete their graduation procedures.

Article (43):

The student does not have the right to claim that they were not aware of these bylaws, University announcements, or anything published on the University noticeboard regarding these instructions.

Article (44):

The Bachelor Degree bears the due date.

Article (45):

1. The student must pay the tuition fees and any required deposit at the time of their registration in each semester. The student registration will not be completed unless they pay all the required fees. The University has the right to amend the amount of fees and deposits required as it deems appropriate, after obtaining the approval of the responsible bodies.
2. Newly-admitted students who have applied to the University immediately after their graduation from secondary schools are entitled to a discount in their first semester. This discount relates to tuition fees only. Other fees such as books fees are excluded:
    - 30% for students who have obtained a GPA 95% and above.
    - 15% for students who have obtained a GPA 90-94.99%.

3. Tuition fees paid by students are as follows
    a. Tuition fees per credit hour for students in bachelor's degree programmes in each of the following colleges:

        i. College of Administrative Sciences

N°	Programmes	Credit Hours	Fees per Credit Hour
1	Bachelor in Accounting	135	92.700 BHD
2	Bachelor in Business Administration	135	92.700 BHD
3	Bachelor in Accounting and Finance	135	92.700 BHD

4	Bachelor in Management Information Systems	135	92.700 BHD
5	Bachelor in Political Science	135	92.700 BHD

ii. College of Law

N°	Programmes	Credit Hours	Fees per Credit Hour
1	Bachelor in Law	135	92.700 BHD

iii. College of Art & Science

N°	Programmes	Credit Hours	Fees per Credit Hour
1	Bachelor in Computer Science	135	92.700 BHD
2	Bachelor in Graphic Design	139	92.700 BHD
3	Bachelor in Interior Design	138	92.700 BHD

b. Other non-refundable fees:
   1. 10 BHD Application fee (paid once)
   2. 100 BHD Registration fee (paid once)
   3. 100 BHD Labs' fees per first and second semester for Computer Science, Interior Design and Graphic Design students.
   4. 50 BHD labs' fees per summer Semester for Computer Science, Interior Design and Graphic Design students.
   5. 5 BHD fees for English language placement test.
   6. 5 BHD fees for an official academic transcript.
   7. 5 BHD fees for issuing a graduation certificate.
   8. 5 BHD fees for a duplicate official academic transcript.
   9. 5 BHD fees for issuance student bona fide official student certificate.
   10. 10 BHD fees for course equivalence procedure.
   11. 10 BHD fees for appealing a final grade per course.
   12. 30 BHD Fees for submission of an incomplete exam (a valid excuse should be submitted in accordance with the procedures established in the University Regulations).
   13. 5 BHD fees to issue a new ID card or a replacement.
   14. 10 BHD for each extra copy of the graduation transcripts and certificate.
   15. In cases where a student loses or damages a book borrowed from the University Library, the fee applied is twice the price of the borrowed book
   16. 10 BHD students' locker rental fees per semester.
   17. 150 BHD fees for graduation, annual book and graduation robe (except for those who do not wish to attend the graduation ceremony).

4. The newly-admitted student pays 650 BHD non-refundable for seat reservation and it consists of the following fees:
   a. 10 BHD one-time fee to submit the application as mentioned in item (1) of paragraph (b) of Article (45) of this Regulation.
   b. 100 BHD one-time registration fee as mentioned in item (2) of paragraph (b) of Article (45) of this Regulation.
   c. 5 BHD fee to issue a new university ID card and mentioned in item (13) of paragraph (b) of Article (45) of this Regulation
   d. 535 BHD part of the tuition fees of the admission semester.

5. Financial instructions relating to the withdrawal of a student:

a. Enrolled students have the right to withdraw totally or partially during the late registration period and the add/drop period (announced each semester by the Deanship of Admissions and Registration) and without any financial charges.
b. Enrolled students have the right to withdraw totally or partially before the end of the second week of the approved study semester as announced every semester by the Deanship of Admissions and Registration and will have to pay the amount of 25% of the fees of the withdrawn courses, provided that the payment is processed before the approval of the courses by the Deanship of Admissions and Registration and after obtaining official approvals by the concerned parties in the college.
c. Enrolled students have the right to withdraw totally or partially before the end of the third week of the approved study semester as announced every semester by the Deanship of Admissions and Registration and will have to pay the amount of 50% of the fees of the withdrawn courses, provided that the payment is processed before the approval of the courses by the Deanship of Admissions and Registration and after obtaining official approvals by the concerned parties in the college
d. Enrolled students have the right to withdraw totally or partially before the end of the fourth week of the approved study semester as announced every semester by the Deanship of Admissions and Registration and will have to pay the amount of 75% of the fees of the withdrawn courses, provided that the payment is processed before the approval of the courses by the Deanship of Admissions and Registration and after obtaining official approvals by the concerned parties in the college.
e. In case the student withdraws partially or totally after the end of the fourth week, he shall pay the entire amount of registered credit hours fees.
f. The student has the right to withdraw totally or partially without financial charges from courses that require prerequisites and were registered in the course registration form submitted by the student to the Deanship of Admissions and Registration.
g. The student has the right to withdraw totally or partially from courses that have been equalized later on without financial charges.
h. In case the student wishes to transfer to another programme after the regular add/drop period, he/she shall bear all the financial charges mentioned above.
i. The student has the right to withdraw totally or partially from courses that have been registered beyond the limit allowed by the university and the Bahraini Higher Education Council without financial charges. If the university cancels or withdraws any courses registered by the student at any time, the amount of the paid fees will be credited to his account.
j. The aforementioned regulations related to students' withdrawal do not apply to new students during admission semester; they are governed by total withdrawal instructions issued by the university during the registration of an academic semester.

Article (46) Hours of Student Activities and Community Service:

1. Regulations for granting a credit hour to the extracurricular activities and community services of students:
    a. The credit hour for student activities is an hour granted with a grade of 100% for participation in student activities through, for example, scientific student societies, students clubs, and student council committees, which are not considered to be an academic requirement.
    b. The student granted this credit hour should be an effective member of a scientific society, student club, or any authority that cares for student activities, voluntary activities and community services, in coordination with Student Affairs.
    c. The credit hour is not granted for student activities and community services for:
        - Students in the orientation programme.
        - Students receiving disciplinary action in the same semester.
    d. The credit hour for student activities and community services counts towards the GPA along with the results of the academic courses at end of each semester through which the activities are practised.
    e. The student is granted a maximum of one credit hour during their time of study in the University.

2. The criteria for granting the credit hour to student activities:
    a. The eligible student is granted one credit hour if the hours of participation are not less than 30 hours in one semester, as indicated in the forms of activity prepared for this purpose by the Student Affairs Deanship.
    b. The activity should be indicated in the University form, Student Affairs Deanship, Colleges, Student Council, Clubs, or Societies, etc.
    c. The students should perform well in the activity they are doing as approved by the organised authority and the declaration of the Student Affairs Deanship.

3. Mechanisms for granting the credit hour for student activities and community services:
    a. The responsible body for the activity fills out a form allocated for the activities that is prepared by the Student Affairs Deanship, so that each student has a file that includes their activities that is kept in the Student Services Office.
    b. The Student Services Office records all student performed activities in one form by end of the semester, in coordination with the body responsible for that activity.
    c. The responsible body of the activity approves the student activity form and refers it to the Student Affairs Deanship.
    d. The Deanship of Student Affairs approves the student activity form, then it is referred to the Deanship of Admission and Registration before the end of the semester, for auditing and granting of one hour for activity, as per the system. The Deanship of Admission and Registration is entitled to return the forms to the Student Affairs Dean to be reviewed once more in case of any errors.
    e. Student activity and community services are not granted retroactively for activity in previous semesters.

Article (47) Amendment to Provisions of the bylaws:

The University Council is entitled to amend the articles of bylaws according to recent updates and public interest, and per resolutions that do not reflect the bylaws and resolutions of the Higher Education Council in Bahrain.

Article (48) Instructions not indicated in the bylaws:

The University Council settles the cases not provided for in the instructions and in disputes that may arise due to the application of such instructions, so as not to conflict with the bylaws and resolutions of the Higher Education Council. In emergency cases that cannot be delayed, the President of the University replaces the University Council for the settlement thereof.

Article (49) Assignment to Implement the Provisions of bylaws Instructions:

The President of the University, deputies, academic and non-academic Deans are assigned to implement the provisions of these instructions.